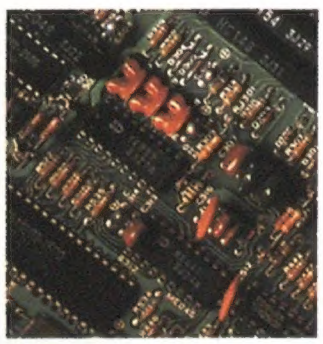
Smithsonian

February 1995

A computer artist pays homage to beauty with a new set of tools **(p. 56)**

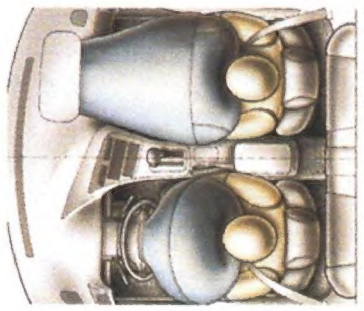
COROLLA. Where
And new



A computerized operations system constantly monitors engine functions.

For over twenty-five years, Corolla has EARNED a REPUTATION for consistently DELIVERING on the many PROMISES it has made. Promises to perform day in, day out.

Today, Corolla is busy making NEW promises. With TECHNOLOGICAL systems that range from ADVANCED safety features to sound-dampening materials that REDUCE interior noise levels to a quiet hush.

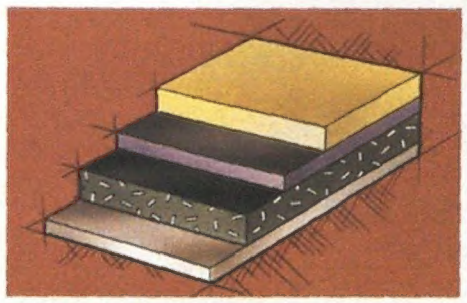


*Both driver and front-passenger air bags are standard.**

PROMISES are kept.
ones MADE everyday.

The 1995 Toyota Corolla. It's the promise of something new, backed up by a HERITAGE of promises kept. And RECOGNIZED around the world as the BENCHMARK of QUALITY.

Call 1-800-GO-TOYOTA for a BROCHURE and location of your NEAREST DEALER.

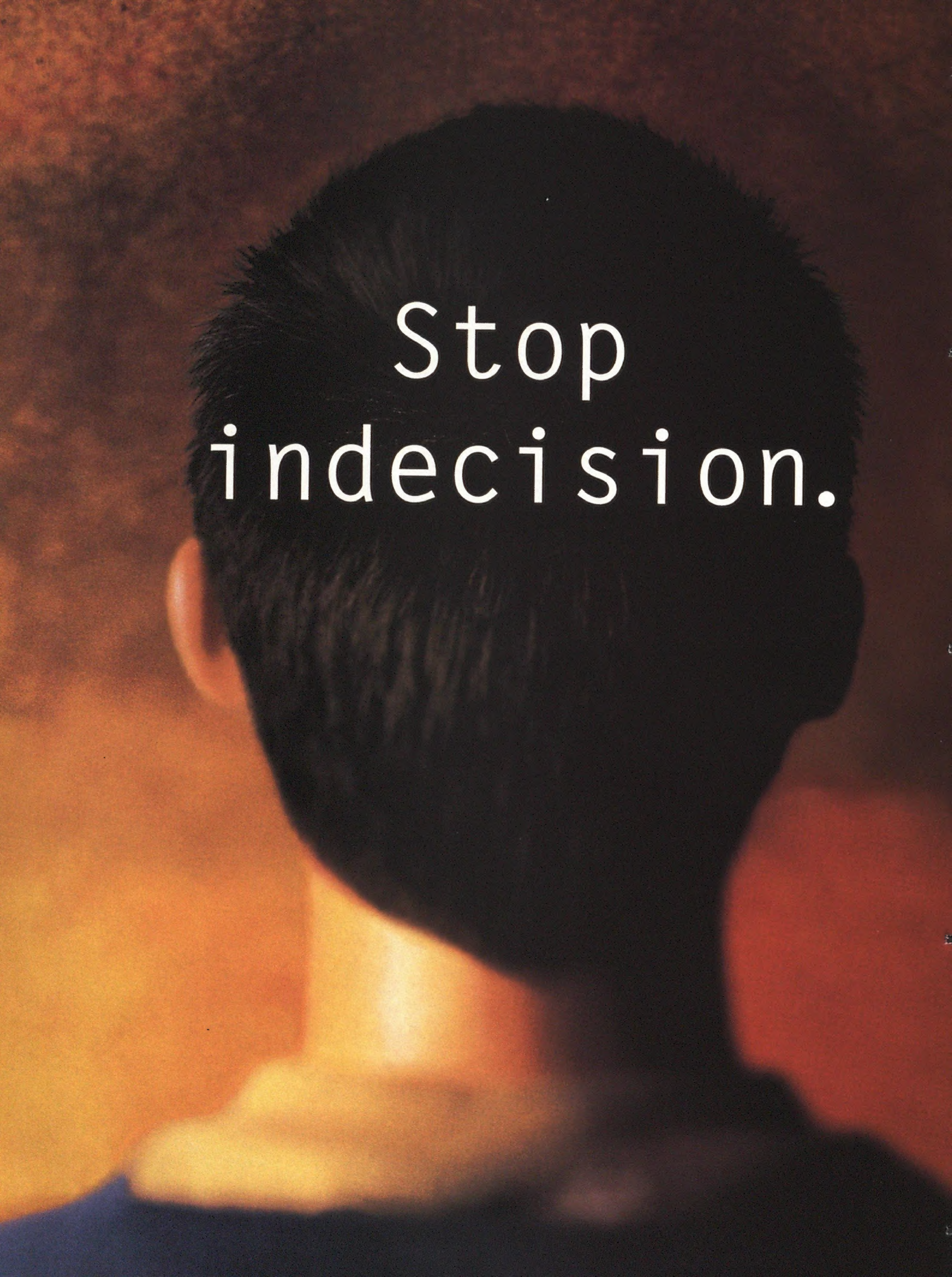


Sound-dampening asphalt and steel sheets are sandwiched together to help minimize vibration and noise.

TOYOTA COROLLA

I Love What You Do For Me

©1994 Toyota Motor Sales, U.S.A., Inc. Buckle Up! Do it for those who love you.
*To help avoid serious injury, always wear your seatbelt. Driver and front-passenger air bags are a supplemental restraint only.


Stop
indecision.

Start. To think big.

In 150 words or less, let's choose a mutual fund.

Step one. Find a fund that lets you start with the exact amount of money you're comfortable investing. If that amount is less than $2,500, over 1,000 funds are eliminated. (Janus Fund, as little as $50 a month.)

Step two. Ignore the "Fund of the Month" hype. Mutual funds are long-term investments. Look for ones that have delivered year in and year out. (Janus Fund has produced positive total returns 20 of the last 24 years.)

Step three. Highlight funds with proven management and money managers with track records you believe in. (Janus has been in the mutual fund business since 1970.)

Choose any fund that fits these criteria and you will have made the best decision possible. To choose Janus, call 1-800-525-8983 ext. 918 for a prospectus and an application.

Investing shouldn't give you a headache. With Janus, it won't.

Call for a prospectus containing more complete information, including expenses. Please read it carefully before you invest or send money. A plan of regular investing does not assure a profit or protect against depreciation in a declining market. Past performance does not guarantee future results.

Funds distributed by Janus Distributors, Inc. Member NASD.

JANUS FUNDS

[$17 billion in assets]

February 1995

Smithsonian

Volume 25, Number 11

Table of Contents

Cover: According to computer artist Charles Csuri, whose images are filled with mystery, symbol and ritual, the figures in *Homage to the Muse* (1990) "seek guidance in expressing the human spirit: Where do we go? What should we do in today's world?" He spends about 70 hours creating works such as *Homage*, using both keyboard and mouse at a high-performance work station. "It takes a good understanding of geometry and a full knowledge of computer-graphics syntax and parameters to do them" (p. 56)
Art by Charles Csuri

8 *Smithsonian Perspectives* by Secretary Heyman
12 *Letters to the Editor*
14 *Picture Credits*
16 *Around the Mall and Beyond* by Michael Kernan
20 *The Object at Hand* by Timothy Foote
23 *February Events at the Smithsonian*

32 **Life on Earth: Was it inevitable?**
Scientists theorize that the occurrence of life isn't as random as they once thought—it may have been required
By James Trefil, illustrations by Greg Harlin

44 **Whew! That was a close shave!**
As practitioners of the hair-razing art know, the fine line between comfort and safety lies at the razor's edge
By Jay Stuller, photographs by Brad Trent

56 **'I wanted to do something different'**
Charles Csuri set out to make the computer an artist's tool—and set off a lasting explosion in the visual arts
By Paul Trachtman

68 **Rutholatry, or why everyone loves the Babe**
He threw a wicked dipsy-do, stole bases with criminal grace and homered at will—but he specialized in fun
By Robert Creamer

82 **All together, now: READ ALOUD TO THE KIDS!**
"Read-aloud guy" Jim Trelease says the value of reading to children is the best-kept secret in education today
By David M. Schwartz, photographs by Richard Howard

94 **'Jaws'? You must have me confused with someone else**
Awed by the huge yet docile whale shark, sightseers are overrunning its Australian swarming grounds
Photographs by Jeffrey L. Rotman

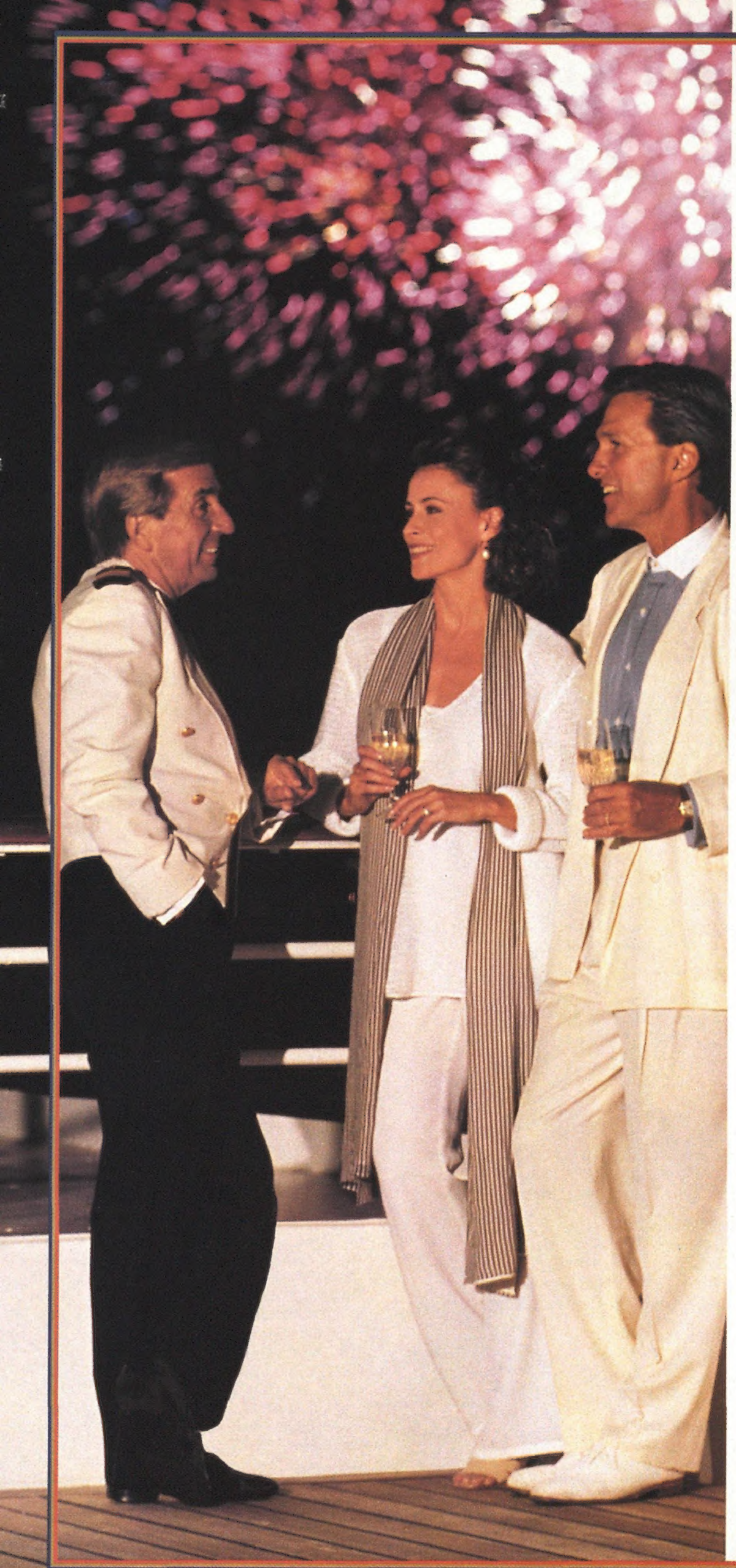
102 **Micky Wolfson, hunter-gatherer-historian**
Twenty years and 70,000 objects into a visual record of the Machine Age, he opens his collection to the public
By Doug Stewart, photographs by Richard Sexton

114 **When Frederick Douglass spoke, freedom answered**
At risk to his own hard-won liberty, the fugitive slave used his powerful oratory to win greater rights for others
By Richard Conniff

128 *Additional Reading*
130 *Smithsonian Tours, Seminars and Expeditions*

132 **So who makes up all those signs . . . ?**
By Bailey White

Smithsonian (issn 0037-7333) is published monthly by the Smithsonian Associates, 900 Jefferson Drive, Washington, DC 20560.
© Smithsonian Institution 1995. All rights reserved. Reproduction in whole or in part without permission is prohibited.
Editorial offices are at 900 Jefferson Drive, Washington, DC 20560.
Advertising and circulation offices are at 420 Lexington Ave., New York, NY 10170.
SUBSCRIPTION PRICES: United States and possessions: $22 a year. Canada and all other countries: add $13 for each year. 80 percent of dues is designated for magazine subscriptions. Current issue price is $3. Back issue price is $5.
Second-class postage paid at Washington, DC and additional mailing offices.
MAILING LISTS: From time to time we make our subscriber list available to companies that sell goods and services by mail that we believe would interest our readers. If you would rather not receive such mailings, please send your current mailing label, or an exact copy, to: Smithsonian, Mail Preference Service, P.O. Box 55593, Boulder, CO 80322-5593.
SUBSCRIPTION SERVICE: Should you wish to change your address, or order new subscriptions, you can do so by writing Smithsonian, P.O. Box 55593, Boulder, CO 80322-5593, or by calling 1-800-766-2149.
POSTMASTER: Send address changes to Smithsonian, P.O. Box 55593, Boulder, CO 80302-5593.
Printed in the USA.



"When people ask me what distinguishes the Royal Viking Sun from other ships, I tell them it's simply our attention to detail. Details like knowing what passengers need before they ask for it. Or recognizing that seasoned travelers such as ours appreciate more imaginative itineraries and the specialness of single-seating dining. Or having an impromptu entertainment program that literally lights up the skies. Perhaps this is why we've been rated the world's best ship four years running. Another detail. One that I happen to be particularly proud of."

You won't find people like Hotel Director Peter Einfeld on any other cruise line. Which is why no other cruise line can give you the experience of Cunard.

Experience the world's largest Five-Star-Plus fleet, Cunard Royal Viking. The Royal Viking Sun, Sagafjord, Vistafjord and Sea Goddess.

Cunard. We make all the difference.

There's a Cunard cruise for every lifestyle. For more information or reservations on any of Cunard's fine ships, see your travel agent or call Cunard for a complimentary brochure.

1-800-221-8200

CUNARD

88L

Royal Viking Sun, Vistafjord and Sagafjord are registered in the Bahamas; Sea Goddess I & II in Norway.
© 1994 Cunard.

ROYAL VIKING

"Private American Train Cars"

THE MOST SPECTACULAR TRAIN RIDE IN THE WORLD . . . THROUGH MEXICO'S COPPER CANYON REGION — FOUR TIMES LARGER THAN THE GRAND CANYON — ON OUR TWO TRAIN SERVICES

SOUTH ORIENT EXPRESS DELUXE RAIL CRUISES

- Operates Seasonally: Sept. - Dec.; Feb. - April. 5-Day Tour Prices Start From $1295.
- Includes: Hotels, Meals, Tour Guides, Sight-seeing, Transfers
- Train Features: Dome Dining, Parlour, Vista Dome and Round-End Observation Cars with 3 Bars and Train Staff of 18; Featuring Meals Prepared by Master Chef.

VSP TRAIN SERVICE
"International First Class Service"

- VSP Service Operates Year Round 3 Days Per Week. Tickets from $99. 3 to 9 Day Tours From $799.
- Rail Cars Feature: Air-Conditioning, Glass Viewing Windows, Reclining Chairs, Lounge Seating, Full Bar Service with Galley for Snacks and Light Meals

The Train Journey Of A Lifetime — Through the Sierra Madre.

FLY FROM GATEWAY CITIES OF LOS ANGELES, TUCSON, EL PASO, DALLAS/FT. WORTH.

DRC Rail Tours
Houston, Texas

1-800-659-7602
713-872-0190

Smithsonian

SECRETARY OF THE SMITHSONIAN INSTITUTION:
I. Michael Heyman

EDITOR:
Don Moser

BOARD OF EDITORS:
Constance A. Bond
Jim Doherty
Timothy Foote
Marlane A. Liddell
Sally Scott Maran
Edgar Rich, Pictures
Nancy Seaman
John P. Wiley jr.

ASSOCIATE EDITORS:
Diane M. Bolz
Kathleen M. Burke
Suzanne Crawford
Frances R. Glennon
Bruce Hathaway
W. Eric Keller
Ruth Ravenel
Jane D. Scholl

ASSISTANT EDITORS:
Caneel Cotton, Pictures
Marian Smith Holmes
Taehee Kim
Alison C. McLean
Lucinda Moore
Beth Py-Lieberman

EDITORIAL ASSOCIATE:
Margot North

ARTICLES ASSISTANTS:
Elizabeth J. Erskine
Angela M. Pleasants

RESEARCH ASSISTANTS:
Karla A. Henry
Minna Morse

CONTRIBUTING EDITORS:
Edwards Park
Bennett Schiff

PUBLISHER:
Ronald C. Walker

ADVERTISING:
David C. Cator, Director
Louis Kolenda, Associate Director
James Sullivan, Associate Director

CIRCULATION:
Liberta Abbondante, Director
Gale Page, Assistant Director
Carolyn Topak, Marketing Director
Elizabeth Hopkins, Planning Director

ADMINISTRATION:
Carey O. Randall, Associate Publisher
Mary Ellen Bobb, Business Director
Valerie Martin, Business Manager

PRODUCTION:
E. Cherry Doyle, Director
Greg Williams, Quality Manager
Briggs S. Cunningham, Editorial

FOUNDERS:
S. Dillon Ripley
Edward K. Thompson

PUBLISHER EMERITUS:
Joseph J. Bonsignore

BOARD OF REGENTS
SMITHSONIAN INSTITUTION

Ex Officio
Chief Justice of the United States
William H. Rehnquist, Chancellor
Vice President of the United States
Albert Gore jr.

Appointed by the President of the Senate
Hon. Daniel P. Moynihan

Appointed by the Speaker of the House
Hon. Norman Y. Mineta

Appointed by Joint Resolution of Congress
Hon. Jeannine Smith Clark
Hon. Barber B. Conable jr.
Dr. Hanna H. Gray
Dr. Manuel L. Ibáñez
Mr. Samuel C. Johnson
Dr. Homer A. Neal
Mr. Frank A. Shrontz
Mr. Wesley S. Williams jr.

SMITHSONIAN
NATIONAL BOARD

Mr. Wilbur L. Ross jr., Chairman

Mrs. Dewalt H. Ankeny jr.
Mrs. Robert M. Bass
Hon. Max N. Berry
Mrs. John M. Bradley
Mr. Stephen F. Brauer
Mr. Cason J. Callaway jr.
Mr. Ivan Chermayeff
Mr. Landon T. Clay
Mrs. Dollie Cole
Mr. Peter R. Coneway
Mr. Thomas E. Congdon
Mrs. William H. Cowles III
Mrs. George C. Dillon
Mrs. Gloria Shaw Hamilton
Mr. John M. Harbert III
Mr. Marion Edwyn Harrison
Mr. Frank W. Hoch
Mrs. Ruth S. Holmberg
Mr. Roger Horchow
Mr. Richard Hunt
Mr. Robert L. James
Mrs. James Kinnear
Mr. Donald G. Lubin
Mr. Frank N. Magid
Mrs. Jean B. Mahoney
Mrs. John F. Mars
Mrs. Nan Tucker McEvoy
Dr. George E. Mueller
Mr. Thomas D. Mullins
Mr. John N. Nordstrom
Mrs. Frank Piasecki
Mr. Heinz C. Prechter
Mr. David S. Purvis
Mr. Alvin N. Puryear
Mr. Robert Redford
Mr. Clive Runnells
Mrs. Arthur M. Sackler
Mr. Leveo V. Sanchez
Dr. Ivan Selin
Mrs. Esther Simplot
Mrs. E. Maynard Smith
Ms. Kathy Daubert Smith
Mr. Kenneth L. Smith
Mr. Jeffrey N. Watanabe
Mr. Frank A. Weil

Honorary Members
Mr. William S. Anderson
Mr. Richard P. Cooley
Mr. Joseph F. Cullman III
Mr. Charles D. Dickey jr.
Hon. Leonard K. Firestone
Mr. Alfred C. Glassell jr.
Mr. W. L. Hadley Griffin
Hon. William A. Hewitt
Mr. James M. Kemper jr.
Mr. Seymour H. Knox III
Mr. Lewis A. Lapham
Hon. George C. McGhee
Justice Sandra D. O'Connor
Mr. S. Dillon Ripley
Mr. Francis C. Rooney jr.
Mr. Lloyd G. Schermer
Mrs. Gay F. Wray

It sounds bigger, richer, and more lifelike than you ever thought a radio could. You literally have to hear the Bose® Wave® radio to believe it. It's small enough to fit almost anywhere, but its patented acoustic waveguide speaker technology helps it fill any room with full, rich stereo sound.

If you enjoy great sound, great music, or if you simply enjoy listening to the radio, you should hear the Wave® radio for yourself. *Popular Science* magazine did, and gave it their prestigious "Best Of What's New" award. The sound is really that lifelike. There's even a handy remote control, pre-set buttons, easy connections for a CD or cassette player, and more.

The Wave® radio is available directly from Bose. Simply call us toll free at 1-800-845-BOSE, ext. RP183A, to receive a complete information kit. Or call to try out the Wave® radio in your home for fourteen days, satisfaction guaranteed. If you aren't satisfied, return it for a refund of the purchase price.

Only Bose offers all this advanced technology. And for just $349. Call today. And discover just how much sound can flow from a radio.

Call 1-800-845-BOSE, ext. RP183A, or mail this coupon for free information.

MR./MRS./MS. _____ ( ) _____ ( ) _____

NAME (PLEASE PRINT) DAYTIME TELEPHONE EVENING TELEPHONE

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Or mail to: Bose Corporation, Dept. CDD-RP183A, The Mountain, Framingham, MA 01701-9168.

BOSE®
Better sound through research®

Secretary Heyman's comments

Smithsonian Perspectives

The electronic transformation that is under way at the Smithsonian will fulfill a central promise of democracy

In this, the last of three columns inspired by the challenges faced by our newly opened National Museum of the American Indian and by the entire Institution in general, I come to one that will uniquely mark my tenure as Secretary: the electronic transformation of the Smithsonian.

At the heart of the information revolution is something far more than an advance in technology; it is the fulfilling of one central promise of democracy: to make knowledge available to as many citizens as possible, and to allow that access to be shaped by their needs.

The sense of what the new technology might mean is particularly strong among Native American communities, who see it as a vital tool of cultural preservation. At its opening events, the National Museum of the American Indian presented the computer program created by Wisconsin's Winnebago community "as a way of giving the gift of the Winnebago language to a generation that probably won't get it at home," as a reporter put it. Such examples have inspired the museum to add to the three planned physical facilities a fourth "museum," which will be concerned with outreach programs and the electronic sharing of resources and ideas with tribal communities throughout the nation and the hemisphere.

Those who visit the NMAI's center in Manhattan will soon have available to them a database of more than 250,000 records that cover approximately one million objects and include about 85,000 photographs. A visitor will be able to search the collections database by region, tribe, state and type of object by simply touching a monitor screen. The data system, called LYNX, is designed to collect information from museum visitors as well as give it, connecting comments to the computer record of the object so they can be entered into NMAI's database.

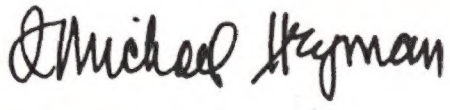
Throughout the Smithsonian, many of our other museums, research centers and offices have found their own entrances to the information highway. Those Americans who have access to Smithsonian Online, for example, can make an electronic trip to the National Museum of American Art to retrieve digitalized images from the collection, review exhibition schedules and ask questions of the staff. More than 130,000 electronic visitors have done so. Recently, NMAA Online has begun once-a-week live discussions with guest hosts. One computer magazine called it "a first in cyberspace."

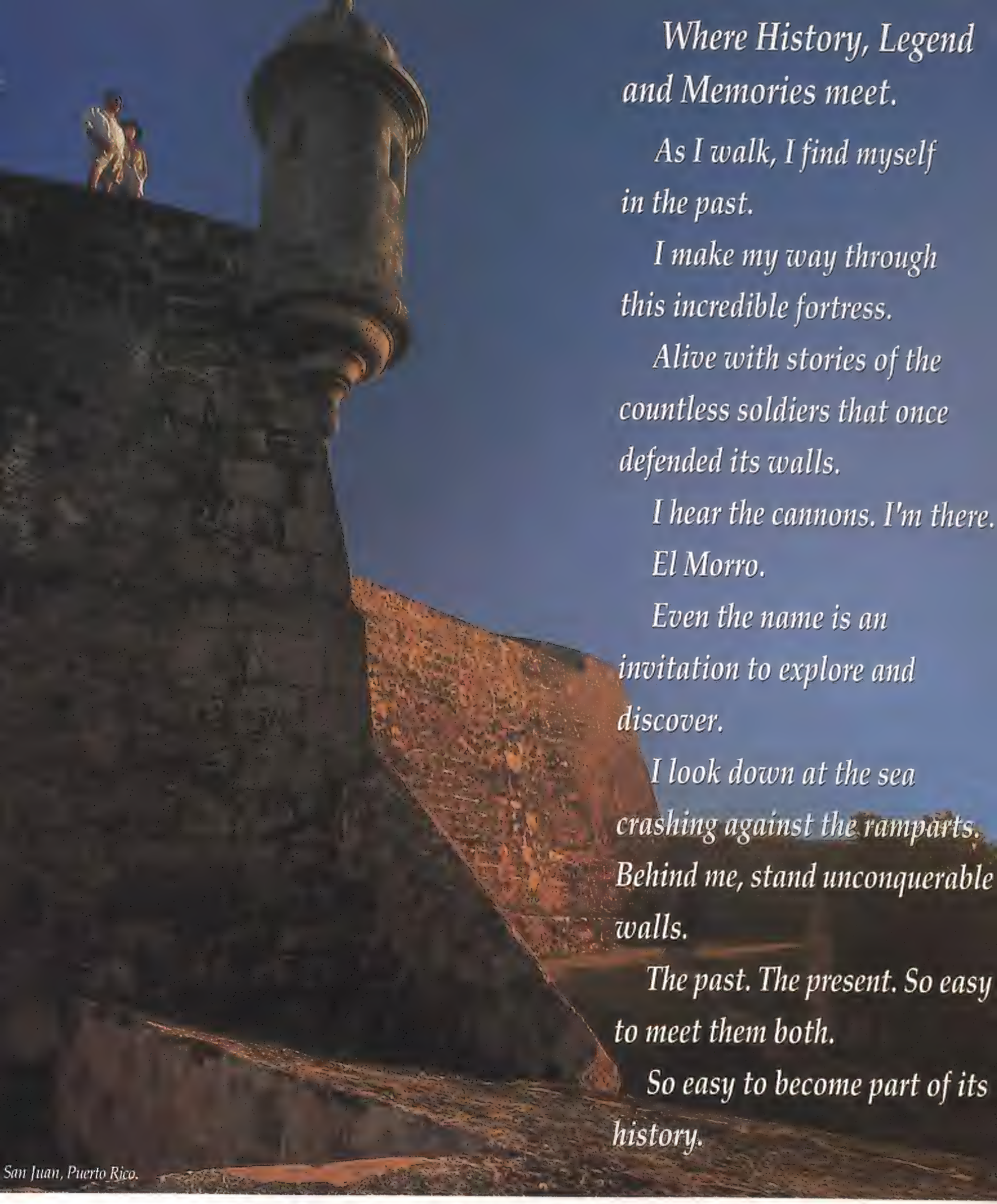
Apart from availability on commercial services, the Smithsonian is committed to making its resources widely available on the sprawling Internet, which is free to those set up to use it. One Internet site, operated by our Office of Printing and Photographic Services, enables users, and in particular students, to download hundreds of photographs. Soon the Smithsonian will go on-line with a full, continually updated information service devoted to the Institution as a whole, with "home-pages" for each of our museums and research centers. This can become a "Smithsonian Without Walls," bringing our resources home to Americans and offering a perennial field trip for students. I'm told that one day emerging technologies will allow on-line visitors to look at 3-D images and, in essence, "hold" an item in their hands, turning it through all its dimensions.

A tough challenge is to find new ways to do things electronically that we normally do on-site. Exhibitions prepared for on-line access should not be just repackaged; they should be re-created. One prototype we are developing in collaboration with scientists at NASA is an on-line interactive version of "Ocean Planet," an exhibit scheduled to open in April at the National Museum of Natural History. It will be available free of charge over the Internet via the World Wide Web. The on-line version will be organized around an interactive floor plan of the exhibit and will incorporate all of its elements. Its "resource room" will provide an interactive bulletin board and instantaneous connections (hotlinks) to other sources of oceanographic information available on the Internet. It will also feature a variety of special programs including discussion sessions, videotaped lectures and demonstrations.

Museums have always represented collaborative efforts. No one individual creates an exhibition or builds a museum's collections. Add now the dimensions of electronic outreach, which requires partnerships at all levels. The Smithsonian has entered into partnerships with the private sector to produce such award-winning multimedia projects as the state-of-the-art CD-I set *The Downhome Blues* and *The Uptown Blues* (Philips), and on laser disk, *Amazonia* and *The Virtual BioPark*, a collaboration between the National Zoo and Computer Curriculum Corporation. We are also joining with the White House and other parts of the federal government to address joint goals in a massive effort to digitize national holdings for the greater benefit of all of our citizens.

It's a start, and I think a good start. As we plan for the celebration of our 150th anniversary in 1996, we will continue to enlarge our technological capacity and know-how to extend the reach of our historic mission. It is James Smithson's goal of "the increase and diffusion of knowledge" reborn for a new century.





Where History, Legend and Memories meet.

As I walk, I find myself in the past.

I make my way through this incredible fortress.

Alive with stories of the countless soldiers that once defended its walls.

I hear the cannons. I'm there.

El Morro.

Even the name is an invitation to explore and discover.

I look down at the sea crashing against the ramparts. Behind me, stand unconquerable walls.

The past. The present. So easy to meet them both.

So easy to become part of its history.

San Juan, Puerto Rico.

Discover what a vacation was always meant to be.

PUERTO RICO

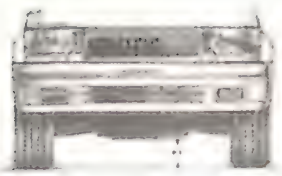
For additional information, call your travel agent or: 1-800-866-7827

Discover the Continent of Puerto Rico.
Right here in the U.S.A.
Only Puerto Rico puts so many vacation experiences within your reach:

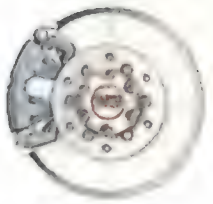
THE 58TH UNWRITTEN LAW OF DRIVING

THE ROAD IS PAVED WITH IDIOTS.

UNLIKE MOST 4WD VEHICLES, DUAL AIR BAGS COME STANDARD.



HIGH GROUND CLEARANCE FOR A BETTER OVERALL VIEW.



THE ONLY 4WD WITH STANDARD 4-WHEEL VENTILATED DISC ABS BRAKES.

IMPACT ABSORBING STRUCTURE DESIGNED TO PROTECT THE CABIN.

HEAD LAMP WIPERS. CLEARLY A BENEFIT, ESPECIALLY IN MUD.

They're out there, those runners of stop signs, those no-signal lane changers. And while we can do little to stop them, we've gone to great lengths to make them less of a threat. Presenting the new Trooper Limited. For more information please call (800) 726-2700.

ISUZU

Practically/*Amazing*

Letters to the Editor

Civilian Conservation Corps

Dear Sir: Your story evoked memories of the fondest two years of my life. I served with the CCC on the Gunflint Trail in Minnesota's Arrowhead National Forest. Upon our arrival at Two Harbors, all 200 of us lined up, and all graduates of reform school and youths on probation were asked to take two steps forward. Only a handful of boys and I stayed put. Camp authorities drove us 30 miles up a one-car trail, dumped us near the Brule River and told us to fill sacks with straw for bedding inside our Army-tent living quarters. No one ever went "over the hill."

I learned surveying, engineering, land management, survival skills, and how to live with salesmen, college graduates, the locals and Indians, as well as convicts, shills, carnies and promoters.
James Shourt
Santa Ana, California

Dear Sir: I met and married a CCC "boy" in 1942, and I believe we need similar programs for today's idle and misguided youth. The CCC made men of boys who stuck with it.
Bernice R. James
Gaithersburg, Maryland

Dear Sir: Photocopy Donald Dale Jackson's article and send it to every legislator in Washington, D.C. The CCC straightened out and led more young men to better lives than any other program before or since. It was my era, and I am 82. We need another CCC now.
Irene Stankiewicz
Charlotte, North Carolina

Dear Sir: The backbone of the CCC was the Army's administration of the program. They fed us and saw we toed the mark. When we slipped over the line, a few nights of extra duty brought us back. And do not forget the state forest rangers who supervised our work and taught us to fly-fish.
Jim Mitchell
Jasper, Minnesota

Cambridge Seven

Dear Sir: Please advise readers of the December 1994 issue that the Acquario di Genova reopened in October 1993 and has already attracted more than a million visitors.
Peter Chermayeff
Cambridge Seven Associates
International Design for the Environment Associates
Cambridge, Massachusetts

'Horny toads'

Dear Sir: I can tell you from personal experience that the "noxious compound" in a "horny toad's" blood is nothing but liquid fear. When I was a West Texas youngster, I captured a prize specimen about four inches long. My little friends and I played with him—petted, jostled, poked and prodded him, spun him around by his tail, and generally made his life miserable—for the better part of a day. We delighted in his puffing up and flattening himself out thin. He finally had had all he could stand and attacked from his devilish eyes, squirting blood that dripped down my arm into my hand. Astonished and horrified, I let that toad go faster than a heartbeat.

Horny toads remind me of carefree days, and it saddens me to know their existence is threatened. Perhaps your article will remind folks of the value of all God's creatures.
Kay Fairbanks
Lubbock, Texas

Dear Sir: You left out another group of "horned frog" legends, namely graduates of Texas Christian University in Fort Worth. Thanks to TCU's founding fathers, who picked the school's mascot, football legends Sammy Baugh and Bob Lilly proudly call themselves "horned frogs."
Aubrey E. Taylor
Mobile, Alabama

Dear Sir: Eastland, Texas, claims that a "horned toad" was held captive in its courthouse cornerstone for 25-plus years and emerged alive despite living without ants or water.
Ben Roberts
Solvang, California

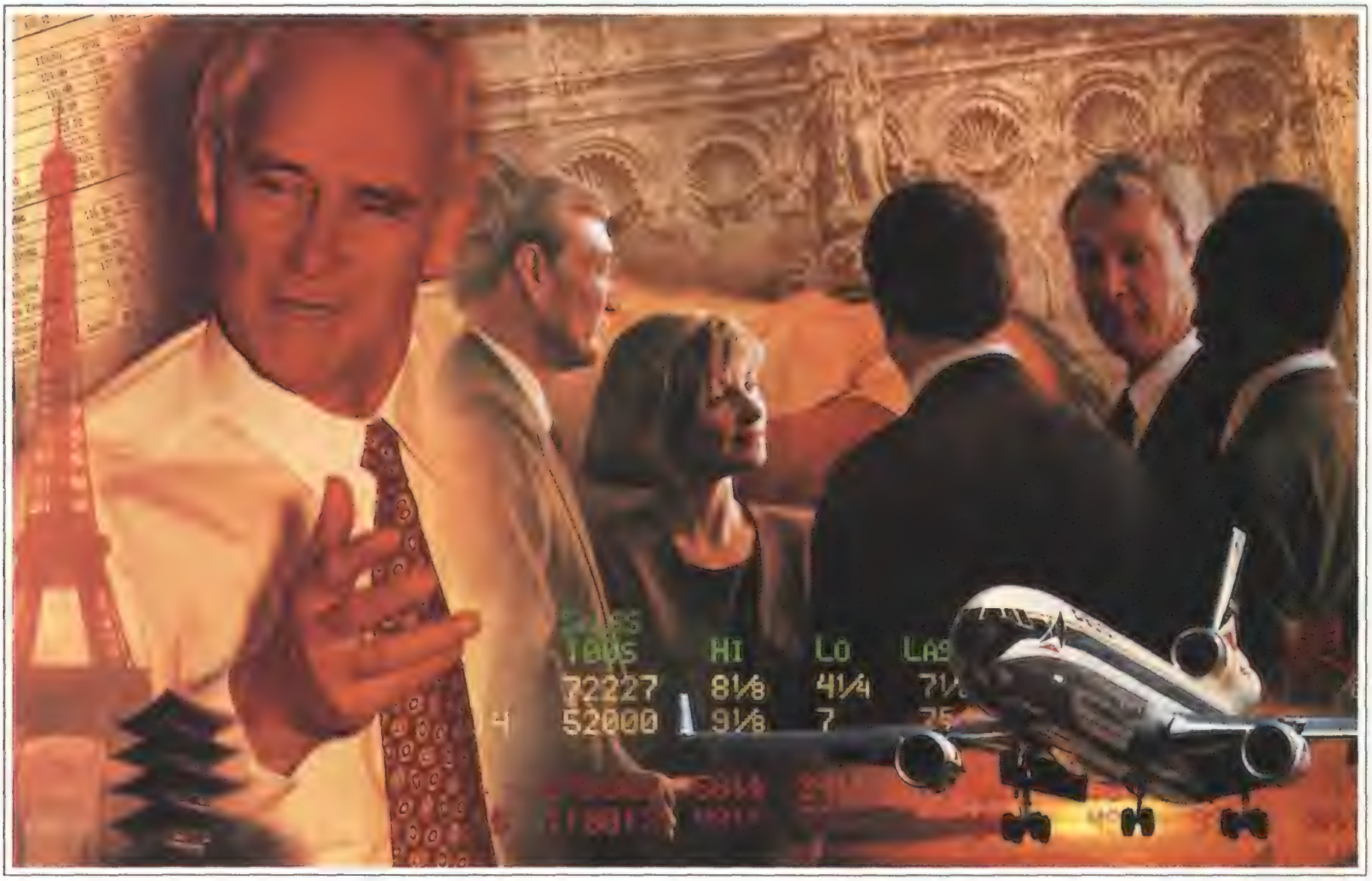
Count Rumford

Dear Sir: Seeing Jacques-Louis David's portrait [below] of chemist Antoine Lavoisier and his young wife, Marie, always makes me wish I could have known her. She appears to have been a woman of beauty and substance. Now, after reading how she made the vain, egocentric, womanizing turncoat Count Rumford miserable in his later years, I *know* I would have liked her.
Cynthia M. Sjodin
Fridley, Minnesota

Dear Sir: John Dornberg is quick to label Benjamin Thompson a traitor, but Thompson apparently was more satisfied with the government of his day than with the promises of the Revolutionaries. He resisted the coercion and avoided physical harm by leaving. Not all Americans were supporters of

Wherever The International Language Of Business Is Spoken, We'll Make Sure You Don't Miss A Word.

They speak it in England, France and Germany. It sounds the same in the U.S., Hong Kong and Tokyo. It's the international language of business. And at Delta Air Lines, we understand how important it is for you to be a part of the conversation. That's why we offer you a schedule with more than 4,900 flights every day to over 300 cities in 32 countries around the world. And along the way, we'll provide a level of personal service so extraordinary, you won't have to say a word to be understood. So join us on your next business trip. We think you'll love the way we fly.



DELTA AIR LINES

YOU'LL LOVE THE WAY WE FLY™

Based on cities served by Delta and the Delta Connection.® Delta Connection flights operate with Delta flight numbers 3000-5999 and 7000-7999. ©1994 Delta Air Lines, Inc.

change, and it was a vigorous minority that brought about the stunning success of the American Revolution.
Arthur E. Ross
Burlingame, California

Dear Sir: By what grand leap of the imagination does John Dornberg characterize Count Rumford as a traitor? It was men such as Benjamin Franklin, Thomas Jefferson and my great-great-great-great-grandfather Jonathan Ingraham, a foot soldier in the rebel army, who were the legal traitors, since they were attempting to overthrow the established government.
Helen Ingraham Francis
Kensington, Maryland

Dear Sir: Regarding Benjamin Thompson's treatment of beggars, John Dornberg wrote that he "pioneered modern liberal theory." Not quite. If the current administrator of an American city "arrested and registered" all the homeless in his city, gave them a place to live, made them take classes and learn trades and put them to work making Army uniforms, he would have the entire liberal establishment down his neck.
Robert H. Paschall
Bishop, California

Lefties

Dear Sir: Having been a lefty for 42 years and having one child normal and the other a righty, I found Nancy Shute's article fun reading.

One day an 8-year-old in my shoe store was being teased by a younger sibling because he could not tie his shoelaces. It turned out he was the only lefty in his family. I sat him down in front of me on a fitting stool and, in about three minutes, showed him how to tie his laces. This child had learned inside out from observing his righty parents.
Stuart T. Eisen
Silver Spring, Maryland

Dear Sir: A left-handed surfer is labeled a "goofy foot" and stands on a board with the right foot forward. Both goofy foots and "regular foots" must master "frontside," or facing the wave, and "backhand," which is back-facing the wave. Waves break both right (as on California's Malibu Beach, which favors the right regulars) and left (as on Bali's Uluwatu, favoring goofy foots). Still others break both ways (Oahu's Pipeline), adding a thrilling if dangerous dimension to surfing. I have learned to be ambi-footed, so all I ask is for the perfect wave—anywhere, carrying me any way. Chances are, if the world were supposed to house only righties, God would have created only right-breaking waves.
Bart Yarnold
Calabasas, California

Dear Sir: I was pleased to see an article about us but wish you had cited my favorite Bible passage: "Among all this there were seven hundred chosen men left handed; every one could sling stones at an hair breadth, and not miss." Judges 20:16. Remember, those men were chosen.
Claude D. Smoot
Boynton Beach, Florida

Dear Sir: Training as a neurosurgeon, I was chastised by a right-handed mentor to choose which was my operative hand. Luckily for me, two of my other supervisory surgeons were lefties, so I could switch-hit in the O.R., swaying with the politically correct side.
Russell Amundson, M.D.
High Point, North Carolina

Dear Sir: You forgot to mention the word "gauche"— French for "left"—which in English means awkward or lacking in social skills.
Ruth Coolbaugh
Golden, Colorado

Dear Sir: The obvious explanation of the shortened life span of left-handed persons is simple: the excesses of the "liberal left" exact a terrible price.
Gene Hessey
Chestertown, Maryland

Phenomena

Dear Sir: Taking pride in the achievements of the human mind is fine, but when the money supply is short, you do with it the best you can and leave a legacy that will neither need to be defended nor put into perspective.
Arthur Magni
Newton, Massachusetts

Object at Hand

Dear Sir: My grandparents homesteaded in Rio Blanco County at the time of the Meeker Massacre. My grandfather had a small store there, and my grandmother traded homemade shirts and pies with the Indians for a peace pipe, a papoose board and many beaded articles. They were friends of Chief Ouray and his lovely wife, Chipeta, who was a Kiowa Apache.

In their home they had a silver-plated coffee set, and the pot had a large "O" engraved on it. The set had been a gift from officials in Washington to Ouray, who gave it to my grandmother.
Sally Coltharp Anderson
Ventura, California

Dear Sir: You ran too few words about Ouray's wife, Chipeta, whose company he preferred to all others. She attended all tribal meetings, the only Ute woman permitted to do so. At home she was a gracious hostess, sometimes singing and playing guitar to her guests. Chipeta and Ouray reared three orphaned children, and after his death she used their wealth to care for other children who had lost their families. She was a woman loved and respected, and following her death and burial in Utah, her remains were reburied in Colorado, where 5,000 attended her funeral.
Marjorie Mathews
Dayton, Pennsylvania

Send mail for consideration in this column to Letters Editor, Smithsonian Magazine, 900 Jefferson Drive, S.W., MRC 406, Washington, DC 20560, or transmit via e-mail to edmail@aol.com. Please include your full name, address and telephone number.

Picture Credits

Cover: Art by Charles Csuri; 12 Granger Collection; 16 Jeffrey W. Tinsley/Smithsonian Institution; 20 Gordon S. Williams Collection/Museum of Flight, Seattle; 22 National Air and Space Museum; 24 National Museum of American History/Collection of Opal Childs; 28 All: National Portrait Gallery; 33-41 Greg Harlin/Wood Ronsaville Harlin Inc.; 44 Brad Trent; 46 Mary Evans Picture Library; 48 Michael W. Thomas/Stock South (2), Smithsonian Archives; 50-57 Brad Trent; 59-64 Art by Charles Csuri; 65 Brad Trent; 68 John Dean; 70 National Baseball Library & Archive, Cooperstown, NY; 72 Brown Brothers, National Baseball Library; 74 Culver Pictures; 74,75 Transcendental Graphics (2); 76 Photoworld/FPG International, National Baseball Library; 77 Transcendental Graphics, Culver Pictures, Photoworld/FPG, National Baseball Library; 78 UPI/Bettmann; 79 National Baseball Library; 83-84 Richard Howard; 85 Ken Sakamoto/Black Star; 86-91 Richard Howard; 94-99 Jeffrey L. Rotman; 102-11 Richard Sexton; 114 Chester County Historical Society, West Chester, PA; 116 Bettmann Archive; 117 Larry Olsen; 118 Frederick Douglass National Historic Site; 119 Madison County Historical Society, Oneida, NY; 121-23 Larry Olsen; 125 Schomburg Center for Research in Black Culture; 126-27 Frederick Douglass NHS; 132 Matt Wuerker.

THE BOMBAY SAPPHIRE MARTINI. AS INTERPRETED BY ADAM TIHANY.

POUR SOMETHING PRICELESS.

Bombay® Sapphire™ Gin. 47% alc/vol (94 Proof). 100% grain neutral spirits. ©1992 Carillon Importers, Ltd., Teaneck, N.J. ©1992 Adam Tihany.

Around the Mall and Beyond

By Michael Kernan

At the site of a new Smithsonian museum, a team of archaeologists dug up traces of a 19th-century neighborhood; bottles, chinaware and even a doll will help us learn more about how the people lived

Here I am, getting rid of my used-up Slim-Rite Wundertip felt pen and standing over the wastebasket ready to throw the thing in like a dart—when I stop in my tracks and tell myself, Wait a minute. Did I think this was nothing but a piece of trash? Jetsam from my frantic career? I am holding in my hands here a nugget of history.

Last fall a team of archaeologists did a dig at the Mall location of the future National Museum of the American Indian, a $110 million building that will stand just east of the National Air and Space Museum, and they unearthed a lot of trash. The National Historic Preservation Act requires that every federally funded building must first have its site vetted for possible impact on cultural resources, which means it has to be checked out for artifacts of bygone civilizations.

It is a useful policy. The practice of looking where we dig has had payoffs for the Smithsonian even when something other than early civilizations have been involved. A dozen years ago, at a construction site near Largo, Maryland, work was delayed for a few days when a giant bone pulled from the mud proved to be the rib of a mammoth. Plunging up to my knees in the mud, I reported the find for the *Washington Post.* And by the time Smithsonian paleontologists had examined the find, and the press reported it, we all knew a lot more about mammoths.

And I remember back in 1984 when a 29,000-year-old cyprus log was pulled from the hole that would become the underground complex of the Arthur M. Sackler Gallery and the National Museum of African Art. Once again we got a chance to learn a little something, that time about Washington at the beginning of the last ice age.

The Mall site for the Indian museum is a strip of land between the Air and Space Museum and the U.S. Botanic Garden. Today it is open greensward—a nice place for a game of volleyball, with a stunning view of the Capitol. But in the last half of the 19th century, and as late as 1928, it was a residential neighborhood whose ambience is suggested by the name of a dirt roadway that ran behind the houses: Louse Alley.

It was not a high-rent district, and probably most residents were more or less transient. A Washington Gas Light Company tank loomed over the street, alongside the E. N. Gray & Co. Foundry and the Taylor and Low Stone Yard. Living in these narrow houses were immigrants from Europe and some African-American families. There was no sign of the area's 17th-century inhabitants, the Conoy Indians, a rather sedate group of Algonquian farmers who apparently didn't want to settle on what was then marshland.

The search team dug as deep as eight feet through soil that had been brought in to fill the marshland when Tiber Creek (which ran roughly along today's Constitution Avenue) was drained and channelized in 1815, and they found "oyster shells, 400 pounds of oyster shells!" according to Donna Seifert, the project manager for John Milner Associates, urban archaeologists, planners and architects.

I don't know, maybe oysters were cheap in those days, but 400 pounds of oyster shells means a lot of oysters. It sounded to me as if someone must have had a grand party out there. "Oh no," Seifert says. "We looked on the map and found there had been an oyster house on the corner."

There were also many bucketfuls of crockery shards, blue pottery from Britain, kitchenware, antique beer bottles, medicine bottles, animal bones and a couple of dolls much the worse for wear. All these items have been taken to the Milner lab in Alexandria, Virginia, to be analyzed to determine, for example, what companies made the discarded dishes and bottles. A report is due this summer.

The archaeologists noticed that residents tended to pile up their refuse at the back of their yards, occasionally shoveling dirt on top. And since most of the houses had no running water or bathrooms, "we were hoping to find outhouses," Seifert says, "because a pit of any kind, a cistern or even a well, when it's abandoned, gets filled in relatively quickly with garbage. This makes

Still-life composed of the chaff of another time; objects were sifted from dirt using shaker screen with tripod.

It suggests both Fortune 500 and Indianapolis 500.

Calfnap-grained leather-trimmed seats. Cavernous space thanks to its innovative cab-forward design. A premium 120-watt Chrysler/Infinity Spatial Imaging™ Sound System with no fewer than 11 speakers. And, of course, driver and front passenger air bags.† Why, with all that, you'd think we made this car exclusively for the corporate elite. Enter a 214 horsepower, 24-valve, 3.5 liter V6 engine. Road-touring suspension and low-speed traction control. Plus a wide track for superior handling. And you'd be apt to think racing elite. Chrysler LHS. Whatever circles you drive in, you'll be comfortable in both. For more information, call 1-800-4-A-CHRYSLER.

Chrysler LHS

form follows function

Fortune 500 is a registered trademark of Time Inc. Indianapolis 500 is a registered trademark of IMS Corp. †Always wear your seat belt.

Circumnavigate South America

Join us on a 49-day epic voyage – Regency's Grand Adventure around South America. Departing Ft. Lauderdale on October 20, the Regent Sea will call at 18 ports, including 3 days in Rio de Janeiro and 2 days in Buenos Aires.

BOOK 49 DAYS GET 7 DAYS FREE!

For those who prefer a shorter vacation, Regency offers nine cruise segments of 10 to 35 days, plus extraordinary land tours to natural treasures like the Galapagos Islands and Iguassu Falls.

Follow in the wake of Magellan aboard a classic ship built for world cruising with wide teak decks and spacious staterooms, continental cuisine, European service and gracious gentlemen hosts.

49 DAYS, INCLUDING 7 DAYS FREE, FROM $5597
10 TO 35-DAY SEGMENTS FROM $1257

FOR RESERVATIONS, SEE YOUR TRAVEL AGENT.
FOR A FREE BROCHURE CALL 1-800-753-1234
AND ASK FOR BROCHURE AS13.

Prices are per person, double occupancy and include SmartFare discounts. Port charges and airfare additional. Ship's Registry: Bahamas.

REGENCY CRUISES

CRUISING THE WAY IT WAS MEANT TO BE

GET A GREAT BODY AT AN EVEN BETTER PRICE.

THE AFFORDABLE FAT BURNER.
The Weslo® CardioGlide™ aerobic rider provides a great fat-burning workout for only $199 (or $49.75 a month). That's $300 less than other aerobic riders!

TOTAL BODY CONDITIONING.
The CardioGlide conditions and strengthens every major muscle group. It also gently stretches your body as you work out, improving flexibility and aerobic fitness. And it's easy and fun to use.

QUICK DIAL RESISTANCE.
As your fitness level grows, the CardioGlide grows with you. It's the only rider that has a QUICK DIAL resistance control. With nine different settings, QUICK DIAL lets you easily vary workout intensity. Meanwhile, an electronic display keeps track of your speed, time, distance and calories burned.

SAFE, DURABLE DESIGN.
The CardioGlide is also extremely safe. Its integrated design provides a workout with no impact on your joints. And its heavy-duty steel frame construction means you'll get great workouts for years to come.

30-DAY FREE TRIAL.
If you're looking for real value, your smartest choice is the CardioGlide. Try it free in your home for 30 days. If you aren't completely satisfied, return it for a full refund. Guaranteed.

Call now and get the great body you've always wanted for only $49.75 per month for 4 months.

1-800-727-9777

WESLO® CARDIOGLIDE®
TOTAL BODY MOTION • LOW IMPACT

©1995 WESLO® is a Registered Trademark of Weslo Health and Fitness Inc.

it a sort of time capsule. But unfortunately the locals used only box privies, the kind with removable drawers for easy cleaning."

Too bad. Ah well. One problem with things that have been scattered about a yard and not neatly collected in a pit is that you often can't tell for sure whether they all really belong together in time and space.

I have seen an old photograph of Louse Alley, probably in connection with outraged articles about the neglected neighborhoods of Washington, showing rows of tumbledown wooden and brick buildings only a few blocks from the Capitol dome.

Back in the 19th century, Louse Alley couldn't have been any more charming than the rest of Washington as described by a French visitor in 1840: "the inhabitants all own cows and pigs, but no stables, and these animals wander about all day and all night through the city . . . the women milk their cows on the sidewalk and sprinkle the passers-by." There was no organized garbage pickup in the city until 1863, and even then, I suspect, Louse Alley may not have been the first neighborhood to have it.

But I am fascinated with the idea of winkling history out of trash, or more to the point, out of the things we take so utterly for granted that we never give them a thought. All we know of many of the very earliest cultures comes from what archaeologists have been able to deduce from the middens. Why shouldn't it work for modern cultures? It is precisely the things we don't pay any attention to, the everyday implements—the toothbrushes and spoons and bottletops, the givens—that often prove to be the clues to a particular society.

The mere discovery of a carefully laid out ancient grave in, say, Germany can produce a variety of insights and suggestions: a belief in an afterlife, for example. A bell-shaped, handleless drinking vessel may be found in the grave, causing the experts to slap their foreheads in amazement: the Beaker folk were here! Find enough beakers and a startling new picture of Bronze Age trade emerges, a network covering all of Western Europe. The smallest detail may contain the essence of our own time. A toothpick discarded today might give an archaeologist palpitations in the 22d century.

What sorts of secrets the denizens of Louse Alley may have harbored, I

have no idea. The original wood-frame houses were torn down in midcentury and replaced with brick row houses, and then the whole area was leveled in the 1930s. In World War II a temporary office building was erected there but removed about 25 years later. We do know that most of the people were short-term renters and that a few of the women who lived there at midcentury described themselves as prostitutes by profession, which was one of the entries listed on the census forms of the day. No big secret, obviously.

What clues will we get from these poor shards and bottles? It's astonishing how much a thinking person can make out of very little.

Take animal bones.

"If you look at the bones closely," says Theresa Singleton, from the anthropology department of the National Museum of Natural History, "and they are cut into short pieces, show slice marks or are extra brittle, then we might say they were boiled in a stew.

"Then you check out the ceramics," Singleton adds, "and if you see mostly bowls, you know those people ate soups or stews a good deal of the time."

Not many steak knives to be found on Louse Alley.

But how do we tell the African-American poor from the Irish, German and French immigrants? "The hard part is figuring out whose trash we're looking at," says Donna Seifert.

"What you need is quantity. You need enough samples of consumer strategies to reach a conclusion. Now, medicine bottles can tell you something. At another site, to give you an example, we found that different ethnic groups tended to use different patent medicines," Singleton explains.

There is a certain amount of discussion, not to say controversy, among professionals over this sort of period research. It was only a generation ago that archaeologists began focusing on the debris of ordinary people from the 19th century. What does archaeology offer that's not in historical documents?

A lot, it seems to me, and if you think I don't see this Slim-Rite Wundertip felt pen in a new light, you haven't been listening. I mean, this is not just a pen, it is an artifact. Furthermore, the ink is, or was, violet, which I failed to notice when I bought it.

Who knows what they might make of it in the 22d century?

[Influenza A Virus — a cause of the flu. Magnified 293,000 times.]

THEY COULD CARE LESS THAT YOU'VE GOT KIDS.

THEY COULD CARE LESS THAT YOU'VE GOT TO MAKE a living.

THEY SIMPLY HATE YOUR GUTS.

SHOW THEM NO MERCY.

A runny nose. Congestion. Fever. Body aches and pain. Drixoral® Cold & Flu is the only medicine that fights your worst cold symptoms, even aches and fever for 12 hours. Twice as long as Tylenol® Cold & Flu or Sudafed® Severe Cold. So you'll feel better, longer. It's the most complete, long-lasting relief you can buy.

TAKE DRIXORAL. FIGHT HARDER.

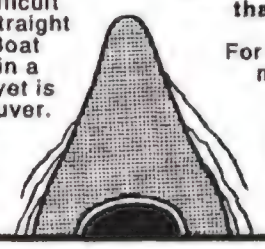
Schering-Plough ©1995 Schering-Plough HealthCare Products, Inc. READ AND FOLLOW LABEL DIRECTIONS.
Tylenol® is a registered trademark of McNeil-PPC. Sudafed® is a registered trademark of Warner-Wellcome Co.

THE POKE BOAT®
IT'S EVERYTHING A CANOE ISN'T.

A canoe is tippy. A Poke Boat isn't. It's remarkably stable.

A canoe is hard to turn and difficult to keep in a straight line. A Poke Boat isn't. It stays in a straight line, yet is easy to maneuver.

A canoe is heavy. A Poke Boat isn't.



It weighs only 22 pounds - built with aircraft strength.

You can buy more than a canoe.

For more information, give us a call.

606-986-2336.

GALÁPAGOS

You, 9 other adventurers and our naturalist will explore by yacht more islands than any other Galápagos expedition. From simple adventures to splendid yacht charters, from scuba diving to serious hiking, no one else offers as many ways to experience the Galápagos because no one else specializes exclusively in the Galápagos. 60 trip dates. Machu Picchu option. Free brochure.

Inca Floats
1311-SL 63rd St., Emeryville CA 94608
510-420-1550

The Object at Hand

By Timothy Foote

A silver speedster from the 1930s evokes the golden age of flight, a pair of world-class speed records and the early triumphs of Howard Hughes' ultimately tragic life

The H-1 is checked out in Burbank on January 17, 1937, just before it flashed across the continent at an average speed of 327 mph.

The object at hand is silver and imperially slim, a fast and famous airplane. And not merely fast and famous either, but probably the most beautiful airplane ever built. Its wings fair into the fuselage with such a smooth and gracious curve that you can almost feel the air just sliding by with no friction.

It is the Hughes 1-B racer, better known as the H-1, which is on view these days in the Smithsonian's National Air and Space Museum. In 1935 it set the world record for landplanes—at the then astonishing speed of 352.388 miles per hour. Sixteen months later it flew nonstop from Burbank, California, to New Jersey's Newark Airport in 7 hours 28 minutes.

As sleek and gleaming as Brancusi's famous *Bird in Space*, the H-1 may represent a pure marriage of form and function. But like many valuable and worldly objects, it was a product of money and ambition. The man who both flew it to fame and was responsible for its creation was Howard Hughes. In those innocent, far-off times Hughes was what was known as a "young sportsman." Born in 1905, he had, at 30, already taken over his father's tool company, made millions of dollars, sashayed around with a veritable Milky Way of movie starlets, and produced and directed *Hell's Angels*, the classic film of aerial death and dogfightery in World War I.

Hughes was a man with a lifelong penchant for films, fast planes and beautiful women. Few begrudged him these preoccupations, even when his production of *The Outlaw* showed a good deal more of Jane Russell's facade than was then thought proper. But his private phobias about germs and secrecy were something else again. To recent generations he is mainly known as the pitiful, paranoid billionaire he became, a terminally ill, grotesque recluse who tried to control vast holdings from beleaguered rooftop quarters in places like Las Vegas and Jamaica.

He had a world-class gift for taking umbrage—and for giving it. But in the air-minded 1930s, Hughes—Hollywood-handsome, rich as Croesus, a hot pilot and a gifted dabbler in aeronautical engineering—was deservedly some kind of hero. He was brave, even foolhardy. His H-1 not only smashed records but broke new ground in aircraft design. He went on to pilot a standard, twin-ruddered and twin-engined Lockheed 14 around the world in a little more than 91 hours. It was not only a world record but a pioneer flight that paved the way for the infant commercial airline services, one of which, TWA, he later owned and ran.

From the moment Hughes decided to make *Hell's Angels* he became a passionate flier. During the actual filming, when his hired stunt pilots refused to try a chancy maneuver for the cameras, Hughes did it himself, crash-landing in the process. He celebrated his 31st birthday by practicing touch-and-go landings in a Douglas DC-2. He also kept acquiring all sorts of aircraft to practice with, and every one he got he wanted to redesign in some way. "Howard," a friend finally told him, "you'll never be satisfied until you build your own."

The H-1 racer was the result. In the early '30s Hughes had hired an ace aeronautical engineer named Richard Palmer and a skilled mechanic and production chief, Glenn Odekirk. In 1934 they set to work in a shed in Glendale, California. Hughes' aim was not only "to build the fastest plane in the world" but to produce something that might recommend itself to the Army Air Corps as a fast pursuit plane.

It was the right moment. The threat of World War II loomed in Spain and China; every year at the Thompson Trophy races in Cleveland, the country cheered the record-breaking exploits of hot little planes flown by the likes of Jimmy Doolittle and Roscoe Turner. Speed records had increased at a rate of about 15 mph a year since 1906, when Brazilian pilot Alberto Santos-Dumont set the first record, in France, at 25.66 mph. A few planes were of bizarre design, like the Gee Bee Sportster, which resembled a fireplug with cupid wings. Some had outsize radial engines (with cylinders set like spokes on a wheel). Others were pointy-nosed, like France's black Caudron racer with its sleek in-line engine. A Caudron set the 1934 speed record at 314.319 mph.

In-line engines were more streamlined; radial engines ran cooler and gave less mechanical trouble. Hughes

"I want to be in the stock market . . . but I prefer a more conservative approach that also can give me some income."

Whatever your needs, the newly expanded Dreyfus lineup has something for you.

Here are just <u>some</u> of our Funds:

INTERNATIONAL STOCK FUNDS*
Dreyfus International Equity Fund
New Dreyfus European Fund

GROWTH FUNDS
New Dreyfus Core Value Fund
Dreyfus Appreciation Fund

INDEX FUNDS
New Dreyfus S&P 500 Stock Index Fund
Peoples S&P MidCap Index Fund
Peoples Index Fund*

SMALL AND MID-SIZED COMPANY FUNDS*
Dreyfus New Leaders Fund
New Dreyfus Special Growth Fund
New Dreyfus Disciplined Midcap Stock Fund

STRATEGIC FUNDS*
Dreyfus Strategic Growth, L.P.
Dreyfus Global Growth, L.P. *(A Strategic Fund)*
Dreyfus Strategic Investing

CONSERVATIVE STOCK FUNDS
New Dreyfus Disciplined Stock Fund
Dreyfus Equity Income Fund
Dreyfus Growth and Income Fund
The Dreyfus Fund Incorporated

DREYFUS DISCIPLINED STOCK FUND

★★★★

4-Star Rating From Morningstar†

The Fund's disciplined approach earned it an impressive 4-star rating from Morningstar, a widely respected service which rates funds based on risk-adjusted performance. Past performance is no guarantee of future results.

† Source: Morningstar, Inc. 11/30/94. Morningstar proprietary ratings reflect historical risk-adjusted performance as of 11/30/94 and are subject to change every month. Funds with at least 3 years of performance history are assigned ratings from 1 star (lowest) to 5 stars (highest). These ratings are calculated from the fund's 3-, 5- and 10-year average annual returns in excess of 90-day Treasury bill returns with appropriate fee adjustments and a risk factor that reflects fund performance below 90-day Treasury bill returns. 10% of the funds in an investment category receive 5 stars; 22.5% receive 4 stars; 1,094 equity funds were rated for the 3-year period and 840 for the 5-year period.

Ask **Dreyfus**

1-800-782-6620 ext. 4090

*** The international, Strategic and small and mid-sized company funds may invest in certain kinds of securities or engage in investment techniques that involve additional risks; these risks are more fully described in the Funds' Prospectuses.** For more complete information about any of these Funds, including sales charges and expenses, obtain a Prospectus by calling toll free. Read the Prospectus carefully before you invest. Investment return fluctuates and you may receive more or less than original cost upon redemption. ***Mutual fund shares are not FDIC-insured and the net asset value of all equity mutual funds will fluctuate from time to time.***

© 1995, Dreyfus Service Corporation, Broker–Dealer
Premier Mutual Fund Services, Distributor

chose a Twin Wasp Junior by Pratt & Whitney, which could produce 900 hp if properly fed on 100-octane gas. It was a radial but small (only 43 inches in diameter), housed in a long, bell-shaped cowling to cut down drag.

In building the H-1, cutting down drag became a cause célèbre. Its plywood-covered wings were short (with a span of only 24 feet 5 inches) and had been sanded and doped until they looked like glass. The thousands of rivets used on the surface of its aluminum monocoque fuselage were all countersunk, their heads partly sheered off and then burnished and polished to make a perfectly smooth skin. Every screw used on the plane's surface was tightened so that the slot was exactly in line with the airstream. The racer's landing gear, the first ever to be raised and lowered by hydraulic pressure rather than cranked by hand, folded up into slots in the wings so exactly that even the outlines could scarcely be seen.

Sometimes Hughes would be intimately involved with the work. Sometimes he'd be off, buying or renting new planes to practice with, acquiring a huge yacht (which he practically never used), dating movie stars like Katharine Hepburn and Ginger Rogers. By August 10, 1935, the H-1 was finished. On the 17th, Hughes flew the dream plane for 15 minutes and landed. "She flies fine," he growled to Odekirk. "Prop's not working though. Fix it." He scheduled the official speed trial at Santa Ana down in Orange County for Thursday the 12th of September.

A triumphant Hughes sits in the cockpit of H-1 after setting first speed record.

Speed trials, under the aegis of the International Aeronautical Federation (FAI) in Paris, measured the best of four electrically timed passes over a three-kilometer course at no more than 200 feet above sea level. The contestant was allowed to dive into each pass, but from no higher than 1,000 feet. And for a record to be set, the plane had to land afterward with no serious damage.

Darkness fell on the 12th before an official trial could be recorded. On Friday the 13th, no less a figure than Amelia Earhart turned up, officially flying cover at 1,000 feet to be sure Hughes stayed within the rules. Watched by a flock of experts on the ground, the H-1 took off, flew back over beet and bean and strawberry fields, dove to 200 feet and made its runs.

To reduce weight the plane carried enough gas for five or six runs, but instead of landing, Hughes tried for a seventh. Starved for fuel, the engine cut out. The crowd watched in stunned silence under a suddenly silent sky. With stubby wings and high wing-loading (the ratio between a plane's lifting surfaces and its weight), the H-1 was not highly maneuverable even with power. Characteristically cool, Hughes coaxed the plane into position over a beet field and eased in for a skillful, wheels-up belly landing. Though the prop blades got folded back over the cowling like the ends of a necktie in a howling wind, the fuselage was only slightly scraped. The record stood. At 352.388 mph the H-1 had left the Caudron's record in the dust. "It's beautiful," Hughes told Palmer. "I don't see why we can't use it all the way."

"All the way" meant nonstop across America. The H-1 had cost Hughes $105,000 so far. Now it would cost $40,000 more. Palmer and Odekirk set to work, designing a longer set of wings—for more lift. They installed navigational equipment, oxygen for high-altitude flying, new fuel tanks in the wings to increase capacity to 280 gallons. Hughes practiced cross-country navigation and bad-weather flying, buying a succession of planes and renting a Northrop Gamma from the famous air racer Jacqueline Cochrane.

By late December 1936, the H-1 was ready again. Hughes tried it out for a few hours at a time, checking his fuel consumption after each flight. On January 18, 1937, after only 1 hour 25 minutes in the air, he landed, and he and Odekirk stood beside the ship, making calculations. Their figures tallied. "At that rate," said Hughes, "I can make New York. Check her over and make the arrangements. I'm leaving tonight." Odekirk objected. So did Palmer, by phone from New York. The plane had no night-flight instruments. But there was nothing to be done. "You know Howard," Odekirk shrugged.

That night Hughes did not bother with sleep. Instead he took a date to dinner, dropped her off at home after midnight, caught a cab to the airport, checked the weather reports over the Great Plains, climbed into a flight suit and took off. The hour was 2:14 A.M., a time when he was accustomed to doing some of his best "thinking." He rocketed eastward at 15,000 feet and above, using oxygen, riding the airstream at speeds faster than the sprints done that year by the Thompson Trophy racers at Cleveland. The tiny silver pencil of a plane touched down at Newark at 12:42 P.M., just in time for lunch. It had taken 7 hours 28 minutes 25 seconds, at an average speed of 327.1 mph. That record stood until 1946, to be broken by stunt pilot Paul Mantz in a souped-up World War II P-51 Mustang.

Hughes went on to live an extraordinary and ultimately tragic life, one that made a different sort of headline. He founded a great electronics company and gave millions to medical research. During World War II he designed the *Spruce Goose*, a huge plywood flying boat that was derided in part because when it was ready, the country no longer needed it. And he died wretched.

After landing in Newark, the H-1 simply sat for nearly a year and was finally flown back to California by someone else. Hughes eventually sold it, then bought it back. But he never flew the H-1 again. He was proud of it, though. He noted several times that its success had encouraged the development of the great radial-engine fighters of World War II—America's P-47 Thunderbolt and Grumman Hellcat, Germany's Focke-Wulf FW 190 and Japan's Mitsubishi Zero. When, in 1975, shortly before his death, he gave the H-1 to the Smithsonian, the plane had been flown for only 40½ hours, less than half of that by Howard Hughes.

Smithsonian Highlights

Planning a Smithsonian visit?

Receive a special free Associates' Planning Packet. Write Smithsonian Information, Smithsonian Institution, Washington, D.C. 20560, or call (202) 357-2700, daily, 9 A.M.- 4 P.M.; for callers with communication impairments, TTY: (202) 357-1729. *Note:* Parking near Smithsonian museums is limited. The convenient Metrorail subway system has parking available at some stations (details in packet).

Begin your visit at the Smithsonian Information Center's Associates' Reception Desk—open 9 A.M.- 4 P.M. daily—in the Castle. The National Museum of Natural History's Court dining room offers buffet service daily, 11 A.M.- 3 P.M.

Most Smithsonian museums are open 10 A.M.- 5:30 P.M. every day except December 25. Hours at the National Zoo are 9 A.M.- 4:30 P.M. daily for buildings, and 8 A.M.- 6 P.M. for grounds.

National Black History Month

During February the Smithsonian will celebrate National Black History Month with a variety of programs. For information, call (202) 357-2700, 9 A.M.-4 P.M. daily. For a 24-hour recording, call (202) 357-4574 (English) or (202) 633-9126 (Spanish) starting February 1.

Musical Weekend

The 23d annual Smithsonian Musical Weekend will be held April 28-30. Highlights include performances by the Miami City Ballet and the Smithsonian's Chamber Music Society; music and refreshments at the Mexican Embassy's Cultural Institute; and a jazz brunch at the Smithsonian Castle. For information about the Musical Weekend, call (202) 973-2118 or (202) 973-2192.

If you'd like to hear more stories about our founder, drop us a line.

129 YEARS AGO, this is where you'd go for a sip of Tennessee Whiskey.

If you were in the market for good whiskey back in 1866, you'd head right for the woods near Lynchburg, Tennessee. Lay your money down and Jack Newton Daniel himself would hand over a jug of his best. Nowadays, you can still find Jack Daniel's in the hills of Tennessee. And, we're glad to say, it's also available in your neck of the woods.

SMOOTH SIPPIN' TENNESSEE WHISKEY

Tennessee Whiskey • 40-43% alcohol by volume (80-86 proof) • Distilled and Bottled by Jack Daniel Distillery, Lem Motlow, Proprietor, Route 1, Lynchburg (Pop 361), Tennessee 37352

Placed in the National Register of Historic Places by the United States Government.

The Contributing Membership

The Contributing Membership supports the Institution's work in education, research and collections programs. Partially tax-deductible-contribution categories are: Supporting, $60 (available only to non-D.C. area residents); Donor, $125; Sponsoring, $300; Sustaining, $600; Patron, $1,200; James Smithson Society, $2,000. Members enjoy special benefits including Smithsonian publications, the engagement calendar and behind-the-scenes tours. For more information, write to The Contributing Membership, 1100 Jefferson Drive, S.W., Smithsonian, Washington, D.C. 20560, or call (202) 357-1699.

Special February exhibits, events

National Portrait Gallery
Recent Acquisitions (through May 29) Artworks recently acquired by the gallery include photographs of Lucille Ball and W. C. Fields by Harry Warnecke. See *Highlights Continued*, page 28.
Majestic in His Wrath: The Life of Frederick Douglass (February 10-November 19) Exhibition marking the 100th anniversary of Douglass' death presents the story of his life and legacy. See page 114.
From Truman to Clinton: Presidents on Time (February 24-January 1, 1996) Portraits drawn from the gallery's collection of original *Time* magazine cover art depict ten U.S. Presidents.

National Museum of American Art
Jim Nutt (February 10-May 21) Retrospective organized by the Milwaukee Art Museum surveys the internationally recognized painter's work.
Chicago Artists: Koffler Collection (February 10-May 21) Works by Chicago artists associated with Jim Nutt.
Free Within Ourselves: African-American Art from the Museum's Collection (through February 26) Paintings, sculpture, folk art, works on paper and photographs.

Renwick Gallery
American Crafts: The Nation's Collection (runs indefinitely) Selection of 19th- and 20th-century works from the permanent collection by nationally prominent artists in a variety of craft media.

National Air and Space Museum
Aerial Inspirations: Silk Batiks by Mary Edna Fraser (through June 4) Large-scale silk batiks portray artist's vision of land, sea and sky.

Snapshot of Opal and Julia Pearl Childs, taken in Seward, Oklahoma (c. 1928), is in NMAH's "and they called us 'Colored.'"

Where Next, Columbus? Permanent exhibition looks ahead to the next 500 years of space exploration.
Beyond the Limits: Flight Enters the Computer Age Major gallery examines the computer revolution in aerospace.
Destiny In Space (10:45 A.M., 1 P.M., 3:15 P.M., 5:25 P.M. daily) New Imax film tells the story of human and robotic space exploration.

National Museum of Natural History
Gem and Mineral Hall (closed for renovation until December 1996) The Hope Diamond will be on view on the second floor of the Rotunda.
Giant Squids Permanent exhibit showcases the world's largest invertebrates.
O. Orkin Insect Zoo Newly renovated insect zoo features various insect habitats and an African termite mound.

National Zoological Park
Amazonia Permanent installation recreates a microcosm of the world's largest rain forest and river habitat, and explores its wonders.

National Museum of American History
With Pen and Graver: Women Graphic Artists in the 19th Century (opens February 24) More than 80 photographs, prints, books, cards and plates, as well as other graphics.
Words & Pictures/Vietnam (February 7-July 23) Photographs by Stephen H. Warner, a U.S. Army photojournalist who was killed in Vietnam in 1971.
"and they called us 'Colored'" (through April 22) Photographs taken in 1914-1936 by two African-Americans present an intimate portrait of life in Seward, a town built by blacks who migrated to Oklahoma in the late 19th century.
Women in Action: Rebels and Reformers, 1920-1980 (through March 1) Exhibition commemorates the 75th anniversary of women's right to vote.
Science in American Life Permanent installation tracks advances and discoveries in science over the past 125 years.

National Postal Museum
Located next to Union Station on Capitol Hill, the new museum presents exhibitions tracking the history of the nation's mail service.

Freer Gallery of Art
Beyond Paper: Chinese Calligraphy on Objects (through April 21) Clay, lacquer, metal, jade, bamboo, wood and horn objects date from 7th to 19th century.
Masterpieces of Chinese Calligraphy (through February 19) All four major scripts and the four primary formats.

Arthur M. Sackler Gallery
A Basketmaker in Rural Japan (through July 9) Woven bamboo backpacks, fishing creels and containers by Japanese basketmaker Hiroshima Kazuo.
Landscape as Culture: Photographs by Lois Conner (through May 30) Large-format platinum prints by the contemporary American-born photographer record the landscape of China and South Asia.

National Museum of African Art
Mohammad Omer Khalil, Etchings/Amir I. M. Nour, Sculpture (through February 26) Works by two Sudanese artists.
Grace Kwami Sculpture: An Artist's Book by Atta Kwami (through March 27) Contemporary Ghanaian artist Atta Kwami's recently created book explores the artwork of his mother, Grace.

Anacostia Museum
Art Changes Things: The Art and Activism of Georgette Seabrooke Powell (February 5-May 14) The work of the post-Harlem Renaissance artist—paintings, drawings, photographs, personal memorabilia.
Black Mosaic: Community, Race and Ethnicity Among Black Immigrants in Washington, D.C. (through August 7) Oral

"When my car broke down, Enterprise picked me up."

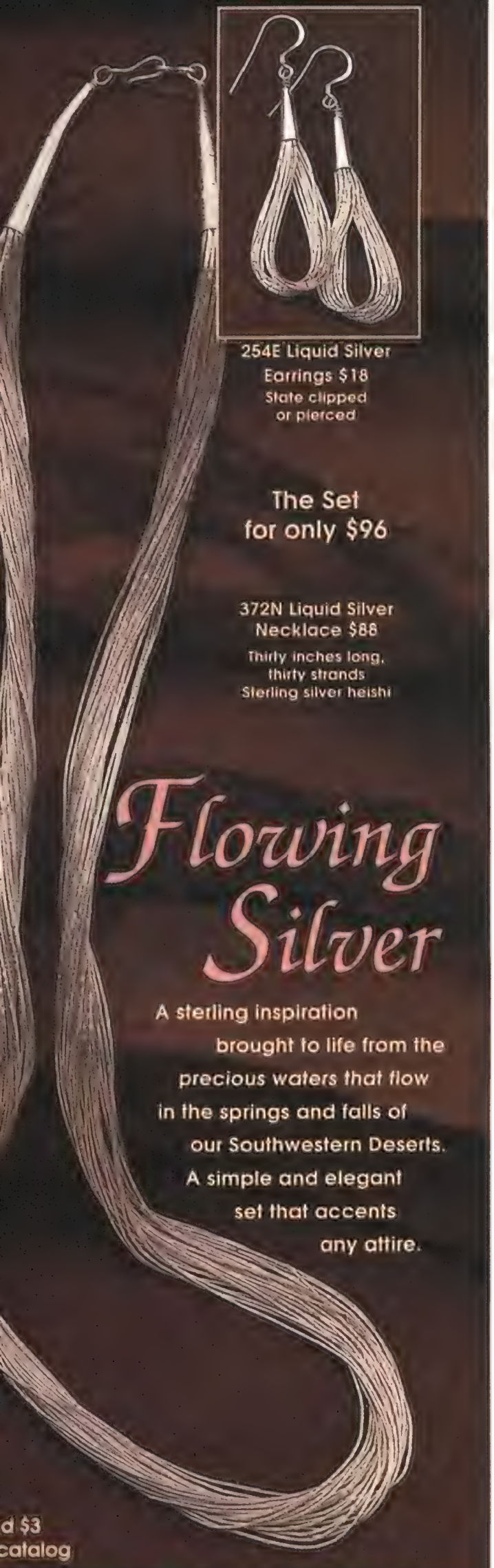
"I'm driving to meet with our brand new client. The car starts to make a funny noise and the engine just...quits! I coast to the side of the road and *luckily* there's a station on the corner. They can't find the problem right away, and it looks like I need to rent something. I have no time for this. So I called Enterprise because I knew they would come to pick me up. I spoke to a nice guy named Jim; he came over and we drove a short distance to his office. I picked out my "E Car" and was on my way. I've had better mornings, but when I was 'down,' Enterprise really picked me up."

We feature GM products like this Pontiac Grand Am.

ENTERPRISE RENT-A-CAR

Pick Enterprise. We'll Pick You Up.℠

Pick up at your home, office, or repair shop is subject to certain time, geographic, and other restrictions. ©1994 Enterprise Rent-A-Car



MARY LAURA'S

SOUTHWESTERN ARTS

To Order Call Toll Free 1-800 662-4848

Visa • Mastercard • American Express

Intl. (505) 242-5502 • Toll Free FAX 1-800-468-3236

$3.00 Shipping & Handling

Box 12615-SM Albuquerque,
New Mexico 87195-0615 U.S.A.

histories, art, photographs and other materials reveal cultural diversity.

Hirshhorn Museum & Sculpture Garden
Directions—Gary Simmons (through February 12) First solo museum exhibit of the New York-based African-American artist includes his 1993 series "Erasures."

Arts and Industries Building
Imagining Families: Images and Voices (through February) Inaugural exhibition of the National African American Museum Project presents the work of 15 American photobiographer-artists.

Discovery Theater
When Lions Could Fly (January 31-March 11) Performances: Tuesday-Friday, 10 and 11:30 A.M.; Saturday, 11:30 A.M. and 1 P.M. Live theater for young audiences. For reservations, additional showtimes, call (202) 357-1500 (voice or TTY).

S. Dillon Ripley Center, Concourse and Rotunda Gallery
Monumental Propaganda (through February 20) Proposals by artists for concepts for transforming Moscow into a showplace of post-totalitarian art.

Heye Center, National Museum of the American Indian (New York)
Creation's Journey: Masterworks of Native American Identity and Belief (runs indefinitely) First of three inaugural exhibitions features 165 objects that date from 3200 B.C. to the present.
All Roads Are Good: Native Voices on Life and Culture (runs indefinitely) More than 300 objects, from Ojibwa bandolier bags to Kwakiutl wood carvings.
This Path We Travel: Celebrations of Contemporary Native American Creativity (through July 30) Unique collaborative presentation showcases the talents of 15 contemporary Native American artists.

Cooper-Hewitt, National Design Museum (New York)
Elaine Lustig Cohen: Modern Graphic Designer (February 7-May 23) Exhibit features book covers, books, catalogs, stationery and architectural signage.
Good Offices and Beyond: The Evolution of the Workplace (through March 19) Office design in the 1970s and '80s.

Exhibition catalogs

Catalogs available currently include:
Majestic in His Wrath: The Life of Frederick Douglass ($14.95 paper)
Wenceslaus Hollar: Seventeenth-Century Prints from the Museum Boymans-Van

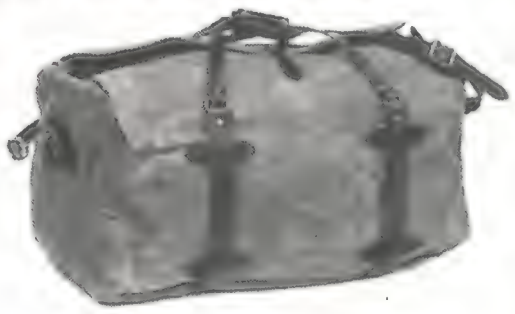
Feel Free

Ride through French countryside
to stay in a château of Henri II.
Stroll into a Tuscan hill town
and enjoy lunch on the piazza.
In Europe and around the globe,
Butterfield & Robinson creates
biking and walking trips that leave
you free to set your own pace
while we look after all the details.

1-800-678-1147
(Canada 1-800-268-8415)

Butterfield
&Robinson
BIKING & WALKING SINCE 1966

DUFFLE BAG by FILSON



"Might as well have the best"
This duffle bag lives up to Filson's motto. It is made from a special 22 oz. 100% cotton twill with Filson's oil finish wax treatment, color Dark Tan, with brown bridle leather straps and solid brass hardware. A generous 13"x14"x25", storm flap, hand carry and shoulder straps.

No. F222 Duffle Bag **$155.00**

Add $4.50 for handling.
Check, M/C, Visa or Amex.
Satisfaction Guaranteed.

For a wide range of . . .
- Akubra Hats
- Filson Outdoor Clothing
- Filson Luggage
- Scottish Waxed Cotton Rainwear
- Northwest Coast Indian Jewelry
- Celtic Jewelry
- Welsh Books and Tapes
- Maps of Britain

Send or telephone for our unique catalog.
Visit our store in the Seattle area.
For orders and inquiries telephone
1-800-324-4934
9:00 a.m. – 5:00 p.m. Pacific Time

David Morgan
11812 Northcreek Pkwy N, Suite 103, Bothell, WA 98011

Beuningen, Rotterdam ($19.95 paper)
Creation's Journey: Native American Identity and Belief ($60/$29.95 paper)
To order, send check or money order to Smithsonian Museum Shops, P.O. Box 1140, Newington, Virginia 22122. Include 15 percent of purchase to cover postage, handling (minimum, $4.50).

Smithsonian on the air

Folk Masters Join host Nick Spitzer and masters of traditional American music for programs featuring Cajun, American Indian and banjo music on the award-winning Radio Smithsonian series. Check local listings. For a free copy of the companion *Folk Masters Listener's Guide*, write: Office of Telecommunications, Smithsonian Institution, National Museum of American History, MRC 645, Washington, D.C. 20560.

The Smithsonian Associates, Resident Program

To become a member of the Resident Program, or for fee and ticket information, call (202) 357-3030. February events include:
The Best of Gilbert and Sullivan (February 11; 7 P.M.) Stars of the D'Oyly Carte Opera Company present an evening of light opera.
Thinking Out Loud: The Talk Show Hosts (February 12; 2 P.M.) *Washington Post* critic Tom Shales joins talk show hosts Maury Povich, Sally Jessy Raphael, Charlie Rose and Jane Wallace.
Saving Our Sons (February 22; 7 P.M.) Author Marita Golden talks about raising black children in a turbulent world.

Smithsonian Institution Traveling Exhibition Service

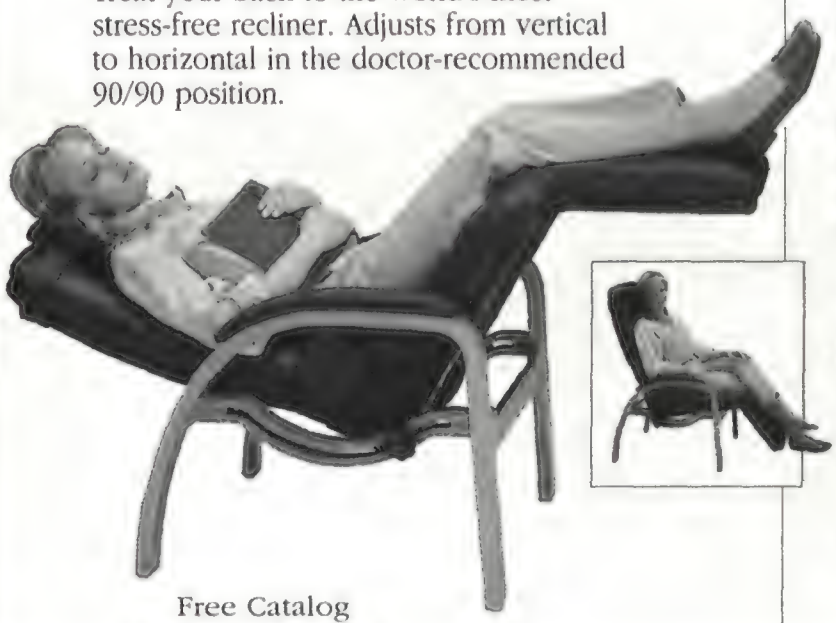
SITES organizes and circulates exhibitions to cities throughout the United States and abroad. To sponsor a show in your community, write SITES, Smithsonian, Washington, D.C. 20560. Here are some February exhibits:
• Flint, Michigan (February 18-April 2) *Climbing Jacob's Ladder: The Rise of Black Churches in Eastern American Cities, 1740-1877*, Sloan Museum.
• Herkimer, New York (February 4-March 5) *The Long Road Up the Hill: African Americans in Congress*, Herkimer County Community College.
• Lafayette, Louisiana (February 4-March 19) *The Tongass: Alaska's Magnificent Rain Forest*, Lafayette Natural History Museum and Planetarium.

Relaxation & Back Relief

Just three of our medically recommended products, designed to make your life more enjoyable.

Relax 'n Read
High-back support makes reading or viewing TV in bed more pleasurable.

Treat your back to the world's most stress-free recliner. Adjusts from vertical to horizontal in the doctor-recommended 90/90 position.

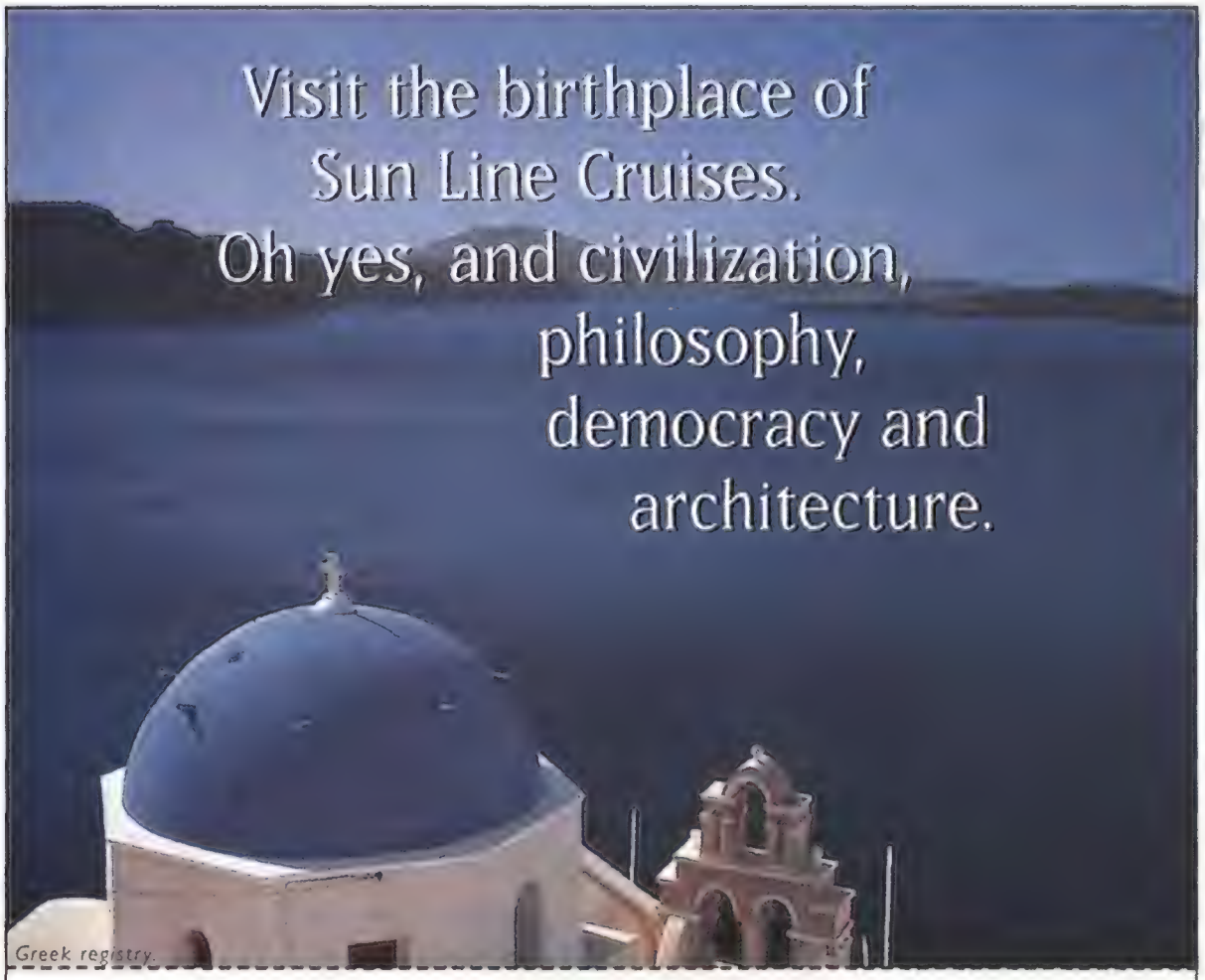


Ergo Desk Mate
Adjustable multi-use wood table is ideal for reading or computing.

Free Catalog
1-800-251-2225

BackSaver
fax 24 hrs. 1-800-443-9609
53 Jeffrey Avenue, S195, Holliston, MA 01746

Visit the birthplace of Sun Line Cruises. Oh yes, and civilization, philosophy, democracy and architecture.



Greek registry.

For a free 38-page Greek Islands brochure, see your travel agent or write Sun Line.

Name:_____
Address:_____
City:_____ State:_____ Zip:_____

Sun Line Cruises, Inc., One Rockefeller Plaza, NY, NY 10020.
Or call 1-800-872-6400.

SUN LINE
Your Best Friends At Sea.™

SM25

Highlights Continued

Harry Warnecke's pioneering color

Decades before color reproductions and snapshots became a fact of life, and years before modern color film was invented, New York *Daily News* photographer Harry Warnecke produced vibrant color images for the rotogravure section of the *Sunday News*. Using a special "one-shot" camera that he built himself, he created carefully crafted portraits of the popular and the powerful. Through an intricate system of mirrors, the one-shot exposed three black-and-white negatives simultaneously, each through a separate colored filter (red, blue and yellow). These "color separations" could then be transferred to rotogravure plates or used to sensitize sheets of colored tissue that, when bonded together on white paper, formed a color carbro print.

In 1993 the National Portrait Gallery acquired a Warnecke print of Edgar Bergen and two of his wooden cohorts. Beguiled by the mastery and warmth of this image, NPG curator Mary Panzer embarked on research that ultimately led to Warnecke's family and a trove of his images, and resulted in his widow's gift to the museum of 13 photographs. Six of these are now on view in NPG's "Recent Acquisitions" show through May 29.

"Harry Warnecke's commitment was to color," says Panzer. "NPG's is to portraiture. Warnecke produced pioneering portraits of celebrities in color, and we're crazy about him."

Diane M. Bolz

Slapstick artists Laurel and Hardy posed for Warnecke in 1938.

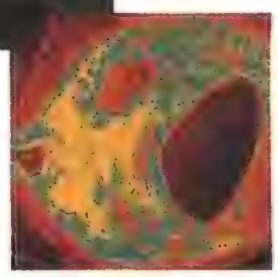
Young actress Lucille Ball strikes graceful pose, 1945.

Funnyman W. C. Fields hams it up for camera, circa 1936.

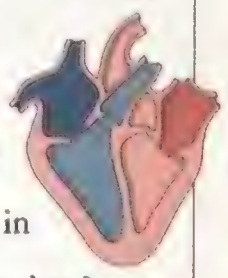
Jazz virtuoso Louis (Satchmo) Armstrong wields famed trumpet, 1947.

LDL CHOLESTEROL IS A TIME BOMB THAT CAN BURST INTO A HEART ATTACK. IS THERE ANY WAY TO STOP IT?

New drug therapies may be able to stymie the artery-clogging oxidation of LDL cholesterol and prevent heart attacks.



Scientists from pharmaceutical research companies discover more than 9 out of 10 new drugs.

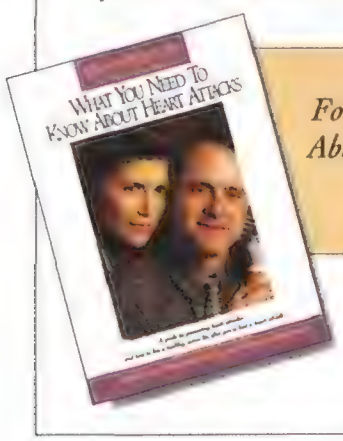


For years, LDL cholesterol has been the major suspect in heart disease. Finally, researchers are beginning to understand why. Once oxidized, LDL cholesterol becomes a powerful lure, attracting other cells. Eventually, these microscopic clumps grow to become artery clogging plaque. This can lead to atherosclerosis, the disease that causes 97% of all heart attacks that occur in men and women in the United States. Can anything be done?

There is hope. Right now, pharmaceutical company researchers are testing drugs that may be able to stop the oxidation process of LDL cholesterol. In all, pharmaceutical companies are currently developing 86 new medicines to treat or prevent heart disease.

p r e v e n t i o n

Anyone can have a heart attack. But age, gender and heredity are major factors in determining overall risk. Fortunately, there are other risks that you can do something about. People who smoke, have elevated cholesterol, high blood pressure and don't exercise are eight times more likely to develop heart disease. Other contributing factors include obesity, diabetes and stress. To lower your risks: Quit smoking • Exercise regularly • Maintain a low fat diet • Lower your cholesterol levels • Get regular medical checkups.



For a free copy of "What You Need To Know About Heart Attacks," please call us toll-free:
1-800-862-5110

America's Pharmaceutical Research Companies

It has a 32-valve, 260-hp engine that takes it from 0-60 nearly a full second faster than last year's model. V8 luxury sedan available. Which means the only place you won't go quickly is your local filling station.

IT'S QUICKER,

YET IT CONSUMES

LESS FUEL.

(Someone at Lexus is burning the midnight oil.)

©1994 Lexus, A Division Of Toyota Motor Sales, U.S.A., Inc. Lexus reminds you to wear seatbelts and obey all speed laws. *1995 EPA estimated mileage. See your Lexus dealer for details.

By James Trefil

However it began on Earth, life may have been inevitable

In a universe filled with prebiotic compounds, it may be only a small step for some of them to hook up in ways that lead directly to life

Only a few years ago, a well-known scientist said that the odds of life arising anywhere in the Universe are about the same as those that a Boeing 747 will be assembled when a tornado rips through a junkyard. But if ideas now circulating in the scientific community turn out to be right, we may find that the occurrence of life isn't nearly as random as we had thought, and indeed may be in a certain sense necessary: life may not be just permitted, but required.

A key question is: How quickly did life on Earth develop once it was possible for it to do so? Rapid development would speak for natural laws conducive to life's arising (even if we don't know exactly what those laws are right now). A long, slow development would argue that life arose by chance, because even very unlikely events can happen if you wait long enough.

Today scientists are nearly able to pinpoint the earliest date in Earth's history when life could have begun. When our planet first formed, pieces of rock many miles across also orbited the Sun. Like the windshield of a car moving through a swarm of insects on a summer evening, Earth plowed through the debris, and one catastrophic impact after another punctuated the days and nights. If an asteroid the size of, say, Ohio were to hit Earth today, it would boil the oceans and turn the atmosphere into steam for several thousand years, sterilizing the planet. The ultimate ancestors of you and me and every other living thing could not have come into existence before the last such major impact.

We have only to look at the Moon to see evidence of the bombardment. And by extrapolating to what sorts of impacts must have been suffered by Earth while those lunar craters were being made, scientists can make an educated guess about when the last big asteroids hit. Their answer: sometime between 3.8 billion and 4.4 billion years ago, with the likeliest figure being 4 billion years. (Earth itself is reckoned to be 4.5 billion years old.) Thus, it was 4 billion years ago that the clock started—the clock determining when life could begin without being destroyed.

How long did the clock run before life arose? Much of the latest evidence comes from J. William Schopf, head of UCLA's Center for the Study of Evolution and the Origin of Life. Schopf and his colleagues went hunting for the earliest records of life in Western Australia. He had picked this site because most of the rocks that were on Earth's surface billions of years ago have weathered away, or have been buried and subjected to enormous heat and pressure. "In that situation, the fossils just get fried," says Schopf. The region of Australia that he went to work in contains the world's largest iron deposit (it supplies most of the steel for Japanese cars), but what made it attractive to Schopf was that it contains the "least cooked" old rocks in the world.

Three and a half billion years ago the region was a shallow sea bordered by volcanoes. Whenever a volcano erupted, a layer of lava spread out over the sea bottom, to be covered by layers of sediment that accumulated until the next eruption. The result was a paleontologist's paradise. Sediments that can hold fossils were sandwiched between layers of lava, whose age can be determined very precisely. Thus Schopf could be sure of the age of any fossil he found.

And find them he did—some of the oldest fossils known to science. They were primitive cells, without nuclei, but these microorganisms formed filamentous strings composed of as many as 40 individuals, much like what used to be called blue-green algae and are

On the cratered young Earth, Nature needed only some energy and a few elements to cook up living cells.

Illustrations by Greg Harlin

Hydrogen
Nitrogen

Certain skeptics argue that the odds of life arising spontaneously are about equal to those that a tornado will rip through a junkyard and assemble a Boeing 747 from discarded tires, auto doors and rocking chairs.

now known as cyanobacteria. Geochronologists have dated the layers of lava between which the fossils were trapped, so Schopf's fossils were dated with unprecedented accuracy. They were between 3.46 and 3.47 billion years old.

Just 500 million years after the last big impact, then, life was flourishing in the oceans. Furthermore, this life was quite advanced. So far Schopf has identified 11 new species in five genera. Their resemblance to later organisms strongly suggests that they were able to photosynthesize, evidently producing an oxygen-rich atmosphere on Earth much earlier than scientists had thought possible. "They are structurally primitive," Schopf says, "but biologically advanced. By this time modern biochemistry was established, and it really has not changed much to modern times."

Nothing about these strings of cells would make you think of Jurassic Park, yet this was what life on Earth was like for most of its history, and from such humble beginnings came all of the life on our planet.

So there it is. A few hundred million years after the oceans boiled under the blow of the last big asteroid, the sterile rocks and gases of the planet had produced a global ecosystem composed of things we would all recognize as living. The inescapable conclusion is that sometime early on in those millions of years, life was produced from nonlife.

But if it's clear now that life began early, the question remains: How did it begin at all? How did hydrogen, carbon, oxygen and nitrogen—the most common chemically reactive elements in the Universe—combine to produce a living, reproducing cell? This is the problem of chemical evolution.

To appreciate the difficulty of trying to work so far back in time, consider our national highway system. Today we are surrounded by the accouterments of the automobile culture—Interstate highways cross the land, huge refineries produce gasoline to be burned in car engines, and the roads are lined with gas stations, repair shops and car dealerships. This complex system of interacting parts developed from a country that had no cars, few paved roads and no petroleum industry. How could it have happened?

Obviously, we didn't have a situation where one part of the system—the Interstate highway system, for example—was built first, to be followed by gas stations and car dealerships. Instead, the elements evolved together—a few cars, a few roads and a few gas stations, followed by

more of each as more people acquired cars and more businesses were created to accommodate them. Along the way a lot of the original system was obliterated. Many of the old roads were paved over, Stanley Steamers were replaced by modern cars, and so on. You would, in fact, have a hard time finding evidence today of the bucolic, automobile-free environment that existed at the end of the past century.

In the same way, life has been developing and evolving on Earth for billions of years. The modern cell is even more complex than the highway system. The basic business of the cell is running chemical reactions, thousands of which are going on in each cell in your body right now. Each reaction is driven by one protein molecule, which acts as an enzyme, or catalyst, to make the reaction proceed. And the information that allows the cell to assemble each protein (and therefore determines which chemical reactions go on) is carried in the cell's DNA.

The modern cell, then, like the modern highway system, could not have appeared full-blown but evolved incrementally. In the process, the modern cell has "paved over" a lot of the evidence for the earlier, simpler forms from which it sprang. The chemical evolutionist's job is to try to see through the modern web of complexity to recapture the beginnings of the system.

The field can be said to have begun in 1953 with the work of two scientists at the University of Chicago: Harold C. Urey (who had received the Nobel Prize in Chemistry in 1934) and his graduate student Stanley L. Miller (now at the University of California, San Diego). In an experiment that has achieved almost mythical status, Miller placed a mixture of water and gases such as was thought to have been in Earth's early atmosphere into a system of closed flasks and subjected the mixture to electrical discharges to simulate lightning. Over a period of weeks, the liquid in the bulb turned the color of tea. What had started as a mixture of simple compounds now contained sophisticated molecules known as amino acids, from which the proteins of life are made.

The enormous impact of the Miller-Urey experiment wasn't so much that these particular chemical reactions must have taken place on early Earth—in fact, there is a body of opinion that says they didn't because Miller and Urey were wrong about the makeup of the early atmosphere. The point was that for the first time scientists realized that it was possible to start with simple compounds that could have existed on the young planet, subject them to influences that must have existed then, and produce molecules that are associated with living things. Life could, it seemed, come from nonlife.

The theory that grew out of the Miller-Urey experiment was simple and appealing. Amino acids and other basic building blocks were created in the atmosphere by lightning bolts or the Sun's ultraviolet radiation. For a while, the skies rained organic materials into the oceans, turning them into a rich broth that came to be called the "primordial soup."

The idea was that the ingredients of the broth would mix together chemically until, by chance, a set of molecules became, in effect, a chemical factory that could produce more of the same molecules. There have been two recurring problems in this scenario. If the molecules were exposed to the Sun's ultraviolet light, they would break apart. The only way to avoid the Sun is to

The young planet Earth slammed into leftover cosmic debris with the deadly frequency of a car windshield sweeping up insects while driving on a muggy summer night.

Scientists are trying to find out how sophisticated molecules assembled themselves and began to reproduce.

have the new molecules sheltered, by being underwater or in some other way. Even having a molecule assembled underwater does not guarantee success, however, because chemical reactions already going on in the water would also tend to break a protein molecule apart. The traditional solution is to have the molecules assembled in tidal pools, in which the concentration of new protein molecules being formed could be high enough to balance those lost to reactions in the water.

The second problem is to find a way to encase the newly formed chemical factory in a membrane to protect it from the environment. With such membranes, these molecules would be the first living things. Feeding on the energy-rich molecules around them, they would reproduce over and over again, populating the oceans in, geologically speaking, a blink of the eye.

If life arose so quickly and naturally, why did it not arise again and again—and why is it not still arising? The answer is that the first cells had unique advantages. They arose in an environment full of energy-rich molecules and had no competition. It wouldn't have mattered if their chemical machinery creaked and groaned and wheezed along, because there was nothing else there. As time went on, however, natural selection favored those cells that were most efficient at getting energy from their surroundings. If that first cell reappeared on our planet today, it couldn't possibly compete. It would far more likely wind up as food for one of its voracious relatives.

So we have come a long way on the road to understanding how life arose. We no longer have to ask where the materials for that first cell came from: the Miller-Urey experiment has shown that they could arise naturally. We don't have to ask when the first cell appeared: the dates of the end of the meteorite bombardment and Bill Schopf's discovery nail that down pretty well. We don't even have to ask what the first cell looked like: Schopf's microbes tell us that cells not too different from those around us today were there at (or at least close to) the beginning. One remaining question—some would say *the* remaining question—is, how did that cell, a complex chemical factory separated from the environment by a membrane, come to be?

A mosaic of theories address that question, but they fall into two general approaches, each of which occurs in many variations. The choice of general approach depends on whether or not a theory requires the presence of nucleic acids, such as DNA or RNA, to work. You might say that there's a no-nucleic-acid school of thought and a pro-nucleic-acid school of thought.

The first of these lines of reasoning assumes that the earliest cells did not involve DNA and proteins, but something simpler. In this scheme, the full machinery of the modern cell was a later development, occurring only after living things had been around for a while. The rationale for this approach is the sheer complexity of modern cells. There is a sort of chicken-and-egg problem here: you need proteins to make the DNA machinery of the modern cell work, but you need DNA to make the proteins. Advocates of this theory argue that such a system could not arise spontaneously.

A key spokesman for this position is Harold Morowitz, director of the Krasnow Institute for Advanced Study at George Mason University. "Unless the core reaction of metabolism can take place without large molecules like DNA," says Morowitz, "we'll always be faced with a paradox." Unless you can build up to the modern cell from simple beginnings, you can't resolve the dilemma.

Morowitz and others who share his position rummage around in cellular chemistry looking for processes that could have made life possible without DNA. The key to their research is the principle that all living things share the same basic biochemistry. Many processes in the

James Trefil, Clarence Robinson Professor of Physics at George Mason University, has been writing on science and technology for SMITHSONIAN *since 1974.*

ONE OF HUNDREDS OF FIESTAS CELEBRATED THROUGHOUT THE YEAR IN MEXICO.

THE HOLIDAYS COME ONLY 297 TIMES A YEAR.

HAVE YOU EVER DREAMED OF LIVING EVERY DAY LIKE IT WAS A FIESTA? WITH 297 OFFICIAL HOLIDAYS A YEAR, THE FIESTA IS A WAY OF LIFE IN MEXICO. IT IS THIS WAY OF LIFE YOU WILL ESPECIALLY FIND IN THE CENTURIES-OLD COLONIAL CITIES THAT DOT THE MEXICAN COUNTRY-SIDE. ONE VISIT TO THESE PLACES AND YOU WILL SEE HOW LIFE WAS MEANT TO BE LIVED—IN CELEBRATION. YOU WILL TASTE IT IN THE LOCAL CUISINES.

YOU WILL SEE IT IN THE TRADITIONAL HANDICRAFTS. AND EXPERIENCE IT WITH THE JOY OF A PEOPLE WHO LIVE LIFE TO THE FULLEST. COME JOIN THE FIESTA. COME TO MEXICO. FOR MORE INFORMATION, CALL **1-800-44-MEXICO.**

MEXICO

EVERYTHING YOU EVER DREAMED OF.

Life perhaps evolved like the highway system, with new developments paving over signs of their predecessors.

physiologies of a yeast cell and an elephant, a clam and a redwood, work in essentially the same way. For example, cells in both plants and animals contain a protein known as cytochrome c, a carrier molecule that accepts and releases electrons during oxidation reactions. The cytochrome c in the cells of humans is 71 percent identical with that in pumpkins.

On the wall of Morowitz's office is a chart of biochemical processes that go on in cells. "These reactions," he says, pointing to a cluster of chemical symbols in the middle, "represent the most primitive aspects of cellular chemistry." He believes that the first cells started with these simple reactions—which are concerned mainly with processes that supply a cell's energy—and that the complexities of modern cells developed later. Theoretically, cells using each new stage of chemistry would have been more efficient than their predecessors, so that as the new, more-complex chemistry developed, the old disappeared. In his laboratory, Morowitz is trying to find which of these simple reactions can go on in water by themselves, without the aid of proteins or any kind of molecular machinery and without a protective membrane. He has identified a dozen or so candidates and is at work testing the first.

The other school of thought—the view of what might be called the pro-nucleic-acid faction—is probably held by the majority of scientists concerned with the question. A leader among them was the late Cyril Ponnamperuma, director of the Laboratory of Chemical Evolution at the University of Maryland (SMITHSONIAN, May 1972). His 40 years of work in the field had made him the dean of origin-of-life studies.

"The basic building blocks of life are everywhere in the cosmos," Ponnamperuma said in an interview shortly before his death in December. To make his point he gestured at a small chunk of rock sitting under a bell jar in his office. It was a piece of a meteorite that fell near the town of Murchison, Australia, in 1969. He found amino acids in that rock—the same stuff that Urey and Miller found in their laboratory. In fact, in the past two decades scientists have found molecules normally associated with life even in the depths of interstellar space.

But it's one thing to have the basic building blocks and quite another to have a living cell. A pile of bricks is not the same as a finished building. Ponnamperuma went to a blackboard and started writing formulas. "Look," he said, "all I need are hydrogen cyanide and formaldehyde to make everything in a living cell, and we know these molecules would have been present in the early ocean. From these I can get anything."

Ponnamperuma's laboratory was full of glass bulbs lined with brownish stains—the results of his experiments with modern versions of the Miller-Urey experiment. He explained that in the lab, by making extended couplings of smaller molecules into larger ones, he had been able to produce both the basic building blocks of DNA and the amino acids that make proteins and join them into still-longer molecules. Already scientists have made chains 70 nucleotides long—nucleotides are the basic structural units of DNA—and proteins with more than a hundred amino acids. (Human DNA contains about three billion nucleotides, and many common proteins contain fewer than a hundred amino acids.)

Increasing complexity sets the stage

Think of the bits and pieces of molecules in Ponnamperuma's test tubes as being something like elephants at a circus. Some of them hook up, trunk to tail; then more do so, and so on until you have a long chain. And although the DNA made in this way did not act as a template for protein production, it's not hard to see how more-complex molecules could be made. The idea, then, is that reactions like this in Earth's early oceans produced both DNA and proteins. As time went on, the complexity of the system increased, but the basic working principle was always the same. Ponnamperuma's conclusion: life originated with cells using some form of nucleic acid. "They evolved together."

Change your spare to a flat.

American Heart Association℠
Fighting Heart Disease and Stroke

*February is American Heart Month. Celebrate with exercise for a healthy heart.***

Nothing trims your waist like NordicTrack.

So you want to lose that spare tire. But you're not sure of the best way to do it. All it takes is the NordicTrack® ski exerciser and a sensible diet. You'll be amazed how quickly you can get rid of your love handles.

Trim 3 inches in just 12 weeks!

In recent studies, people got remarkable results like these in just 12 weeks* with NordicTrack. It can work for you, too.

- Trim over 3"off your waist
- Lose 18 pounds
- Reduce your body fat weight by 30%

Take it off! Keep it off!

While steppers, treadmills and exercise bikes work just your legs, NordicTrack conditions all your major muscle groups at once. So you get a more complete workout and fast results. NordicTrack lets you burn an average of 890 calories an hour—even up to 1,100 an hour! No ordinary exerciser can say that.

Lose weight and gain a better life.

With NordicTrack, it's not just the weight you lose but everything you gain. While it trims your body, this superior total-body aerobic workout also strengthens your cardiovascular system, boosts your endurance and raises your energy level. So you can feel as great as you look.

The exercise you can live with.

Once you try NordicTrack, chances are you'll stick with it. That's because it's easy yet so effective. Studies show even after 5 years, 7 in 10 NordicTrack owners still use their machines an average of 3 times a week. And 97% of them recommend it to others. So why not change that spare tire once and for all? Call now and talk with our personal fitness consultants. They can help you design a NordicTrack fitness program that's sure to trim your waist for good.

NordicTrack
A CML Company
The World's Best Aerobic Exerciser®

CALL FOR FREE VIDEO & BROCHURE
1-800-441-7891
Ext. 355B5

❑ Please send me a FREE video & brochure
My main fitness goal is (check one) ❑ Weight loss
❑ Shaping & toning ❑ Cardiovascular fitness ❑ Overall health

Name _____ Phone ( ) _____
Street _____
City _____ State _____ Zip _____

Call or send to: NordicTrack, Dept. 355B5
104 Peavey Road, Chaska, MN 55318-2355

©1995 NordicTrack, Inc., A CML Company • All rights reserved.
*Results shown are averages. Individual results may vary.
**NordicTrack is a sponsor of the American Heart Association.

Owners who look like their dogs are one thing, but it may not be so easy to see pumpkins as relatives.

Whether life originated with or without nucleic acid is only one of the questions scientists have to grapple with. Among the others: How did the cell membrane come into being (after all, the first cell must have been surrounded by something that divided the living from the nonliving)? In what environment did life originate? And how did cells begin to replicate?

There are no clear-cut answers to any of these questions, but a number of theories have been advanced that touch upon one or more of them.

• **RNA World** RNA (ribonucleic acid) is a close cousin of DNA. In modern cells it plays a crucial role in the process by which information in DNA is used to construct protein molecules in cells. But recently it was discovered that some kinds of RNA can act as enzymes—they can drive reactions themselves. Furthermore, last year Gerald Joyce and his colleagues at Scripps Research Institute at La Jolla, California, produced a bit of synthetic RNA that, when fed the right bits of protein, was able to make copies of itself.

In this scenario, the RNA came first, to some extent playing the role both of DNA and proteins. In terms of our analogy it was both the first car and the first bit of highway. Joyce's molecules are not "alive," but they lend some credence to the idea that the first cell's chemistry might have been very different from the present DNA-plus-protein system. In this scenario, though, the original chemistry has been completely superseded and can no longer be seen in present-day cells.

• **Clay World** Some clays have static electrical charges on their surfaces that are capable of attracting molecules. In a sense, they can act like a photocopying machine, in which electrical charges accumulate in the places where light hasn't fallen on a metal plate, then attract bits of carbon that are fused to the paper, producing an image. Similarly, the surface of clay can carry a mosaic of electrical charges. These differ from place to place on the clay, and each place can attract specific molecules. Thus the pattern of electrical charges could act as a template for the assembly of varied collections of molecules, providing the opportunity for them to combine into more-complex—perhaps living—forms.

• **Hot World** Research submarines have found whole ecosystems grouped around volcanically heated vents in the ocean floor. The creatures here get much of their energy from sulfur compounds rather than sunlight. These sites, protected from the Sun's ultraviolet radiation, could have provided a safe haven for the incubation of life, which eventually migrated to the surface. This scheme gets around an old problem—how life could have evolved in the presence of ultraviolet radiation from the Sun, which would have split complex molecules as fast as they formed—but it presents problems of its own. If sulfur-based life did develop at undersea vents, it would have had to metamorphose to something else when it reached the surface.

• **The Primordial Oil Slick** Whatever chemical processes went on in the early ocean, they likely may have produced oils (fatlike molecules) as well as everything else. In an essay (and book) titled "Mayonnaise and the Origins of Life," Morowitz gives a wonderful layman's explanation of why this is important. The basic point is that some of these oily molecules (like the ones in mayonnaise) tend to clump together to form little vesicles, or "bubbles." Each bubble could contain a different mix of whatever chemicals were lying around in the early ocean, so each would, in effect, be a miniature chemical experiment. It would only be necessary for one such bubble to contain the kinds of reproducing molecules we've been talking about for it to qualify as the first cell.

An argument in favor of this theory is that the first cell comes ready-made with a membrane (the oil-molecule "skin" of the bubble itself) that separates it from the environment.

Although there is no true consensus about any of these theories, the picture of the origin of life that is emerging these days involves a certain inevitability. Sci-

entists no longer argue that if you just wait long enough, *something* will happen. Instead, they say that given the right mix of molecules something will surely happen, and probably pretty quickly at that. Life didn't happen by chance but according to the same kinds of laws that govern ordinary chemical reactions. This emerging picture, if it holds up, has an obvious and enormous bearing on the question of whether there is life elsewhere in the Universe.

After all, on our own planet chemical evolution could well have happened quite early in the years after the asteroid bombardment ended, leaving the process of natural selection plenty of time to produce Schopf's assemblage of photosynthetic bacteria. It wasn't necessary to wait billions of years for a random assortment of molecules to come together.

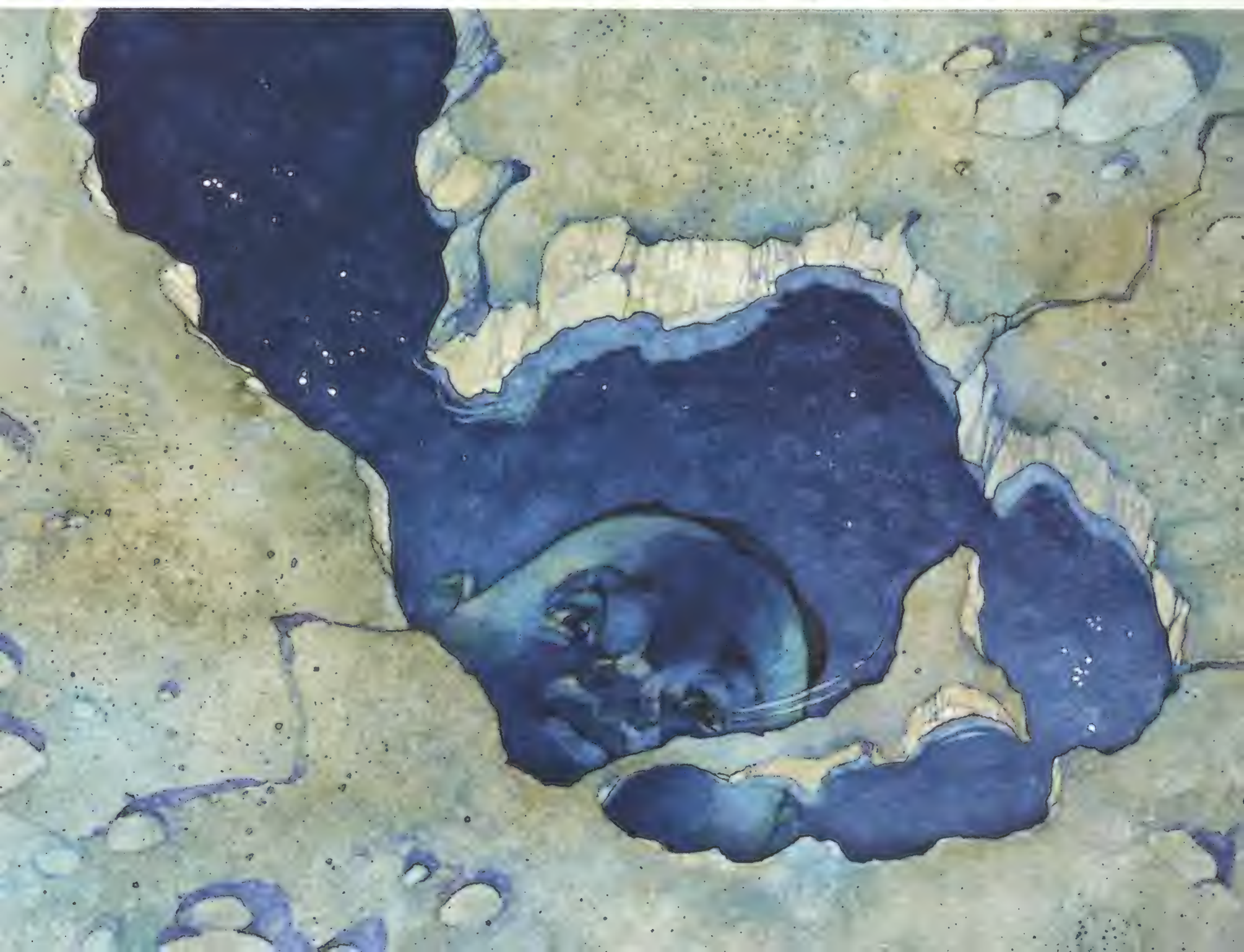
"In this business," said Cyril Ponnamperuma, "time is not of the essence." Asked whether he meant that a living cell could develop in a few thousand years once the conditions were right, he replied: "I mean that once the conditions are right, it could happen in 24 hours."

"The problem with accepting this picture [of the rapid development of life] is psychological, not scientific," William Schopf says. "People think that life is so different from everything else, that there has to be a huge gap in time separating the living from the nonliving, but that's just not the way it is."

Research seems to be telling us that soon after the last major asteroid hit Earth, a primitive cell—the ancestor of every living thing—appeared somewhere in the oceans. That life multiplied, spread and diversified for hundreds of millions of years until, in a quiet bay in what is now Australia, it left the first footprint for us to read. Sometime in the near future, someone will be able to produce that primitive form of life.

Then we will have the evidence to back up Cyril Ponnamperuma when he declared: "The business of the Universe is creating life."

A young species ourselves, we have already found footprints left by some of the earliest life on Earth. We may be closing in on the answer to the mystery of how living things first arose from the nonliving.



*The only leading sport utility with standard dual air bags.**

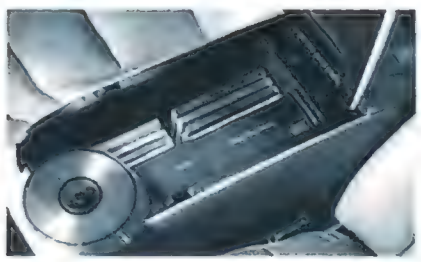
Remote keyless/illuminated entry for added security.

New ergonomically designed instrument panel with large, easy-to-use radio controls.

The Sport Utility That Was Dressed To The Nines Is Now Dressed To The Tens, Elevens, And Twelves.

New standard 4-wheel anti-lock disc brakes for surer, safer stops.

New Automatic Ride Control constantly adjusts the suspension to your load for optimum ride and handling.



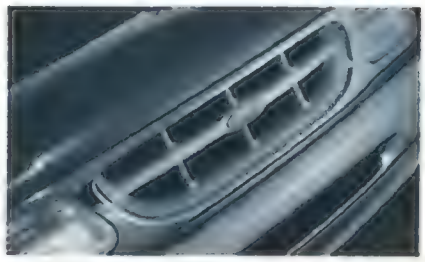
Sensational sound from available new 6-CD changer and JBL stereo.

Ford

THE BEST NEVER REST

New available power moonroof delivers a sky full of driving pleasure.

Free 24-Hour Roadside Assistance for 3 years/36,000 miles. See dealer for details.



100,000 miles of carefree driving before first recommended tune-up with standard V-6 engine.

Personalized comfort from available 6-way power seats with exclusive 3-person memory.

Introducing The New Ford Explorer Limited.

By Jay Stuller

It's a new battle every day in the war on whiskers

Razors have come a long way in 7,000 years, but preparation and a steady hand remain the survival skills each time steel meets skin

At 8:45 on a humid September morning, Mark Hurley pulls his car into the lot of the small industrial park in a quiet section of Milford, a city of about 50,000 hard by Long Island Sound. A prosecuting attorney for the state of Connecticut, the 35-year-old Hurley is due at the courthouse in 15 minutes. But first, he slips through a glass door and into a modestly furnished waiting area, where a half-dozen men sit in silence.

From around a corner comes the sound of running water. In a narrow room, at a row of sinks lining a wall, several other men stand before mirrors. No one speaks much above a whisper. The air is heavy with the aroma of lather, spiced by the scent of Aqua Velva. The fellows at the sinks, some in business attire, others in T-shirts and jeans, are shaving.

In fact, one might call Hurley and his colleagues—about 150 of whom come through here five mornings a week—professional shavers (opposite). After all, they're paid six bucks a day to test-drive the Warner-Lambert Company's line of Schick razors and blades.

When one of the two women sitting in a partitioned office calls his name, Hurley jumps up and signs in. Handed one of the ever-changing instruments tested at Schick's Shaving Research Center, the lawyer flips his necktie over his shoulder, lathers up and scrapes off the whiskers stubbling his face. Toweling away a few dollops of lingering cream, Hurley quickly fills out a form, rating the razor's comfort, closeness, safety and overall shaving performance.

"We could have any number of tests going on," explains Fred Wexler, director of research at Warner-Lambert's Shaving Products Group, manufacturers of the Schick and Wilkinson lines. In a nearby factory, 600 employees produce razors and blades that dress the faces and legs of men and women worldwide. "It could be to try out a different blade angle for a new razor, or a quality-control check on an existing line." The data on the forms are fed into computers for analysis. Says Wexler: "It doesn't take long to get a pretty accurate read on the sensory perceptions produced by a given razor."

Through the center's doors come swarthy men with thick whiskers, pale youths with peach fuzz, guys with gaunt cheeks, some jut-jawed as Jay Leno. Women also have a place to test razors on underarms and legs. "The main idea is to have them shave just like at home," adds Wexler. "And we want their immediate reactions, without a lot of thinking."

Without thinking is how the 90 percent of American men over the age of 15 who shave an average of six days per week approach this routine. These unbearded males clear-cut faces that are studded with between 10,000 and 30,000 whiskers, sprouts that grow about 15-thousandths of an inch over 24 hours. Let his beard grow just a couple of days and a man will look like a mendicant or a male model in a fashion ad. If never mowed, the hair unfurls as much as six inches a year.

As kissin' partners well know, the stubby shoots on a man's face are tougher than copper wire of a comparable thickness. While some females are attracted to beards, about 70 percent of U.S. women rate clean-shaven men as sexy. Thus, most guys are inclined—if not compelled—to devote from three to ten minutes a day shaving.

It's not a small investment, for over a lifetime that can add up to more than 3,000 hours, or 125 days, spent shaving. What's more, men and women together spend about $80 million annually on razors, about 30 percent of which are electric devices. Of the "wet shave" razors that still dominate the market, roughly 60 percent are the disposable type—you toss the whole thing when the edge grows dull—while the remainder use replaceable blades. Americans lay out about $900 million a year for those replacements. What's more, the figures don't include what's paid for creams, after-shave lotions, depilatories and other accessories.

In a fashion magazine article, anthropologist David Givens was asked to explain the essence of such devotion. "What men are doing when they're shaving is seeing how they feel about themselves," he offered. "You're communing with that image in the glass; you're commu-

Nine shavers put their faces on the line for Schick in Milford, Connecticut. Mark Hurley is at the center.

Photographs by Brad Trent

In 1904 Frenchman Louis Coulon, then 78, sported a beard that had grown to within a whisker of 11 feet.

nicating with your face in the tactile sense. You're getting in touch with your body."

Bunk and hooey, good sir. With the fog of sleep clouding craniums, most shavers are hardly in touch with lower-brain-stem function, much less the bleary-eyed mug in the mirror. Furthermore, a Schick survey revealed that more than 95 percent of all men find shaving downright boring. That's why, for most guys, the tedious chore is executed with minimal preparation and nothing remotely resembling enthusiasm.

On this particular September morning, however, before heading off to his main gig of putting bad guys behind bars, professional shaver Mark Hurley is struck by a pleasant feeling. At the bottom of the questionnaire he scrawls: "Very clean and smooth shave today." Little may Hurley recognize the remarkable nature of such an outcome. For most of human history the "gentle art" of shaving has been anything but.

"A state of decorous subjugation"

In an 1886 essay Oliver Wendell Holmes sr. noted: "The process of shaving, never a delightful one, is a very unpleasant and awkward piece of business, when the floor on which one stands, the glass in which he looks and himself are all describing those complex curves which make cycles and epicycles seem like simplicity itself." In 1927 the editor of *Antiques* magazine called old straight razors "the lethal weapons with which the men of a courageous generation were wont to keep the verdure of their open and unprotected countenances in a state of decorous subjugation."

Ground and stropped to a deliciously delicate edge, the venerable straight razor was at once a friendly tool and an ominous object. Easily concealed, it could be flipped open to administer a deadly dispatch with a slash through the carotid artery. In literature, films and popular songs, the straight razor serves as an icon of intimate menace. Even in a benign hand, the "cutthroat" straight razor was an accident waiting to happen. Free-swinging and with no guards to prevent the razor's edge from slicing deeply into the skin, its use forced a man to keep a styptic pencil nearby. The first "safety razors" of a century ago were not much better: because changing a dull blade meant disassembling the device, fingers were cut as often as faces. Given all the arterial blood that was inadvertently let, it's a wonder the species survived.

We sons of *Australopithecus* started shaving long before history began, perhaps as far back as Paleolithic times. It was certainly done by the Neolithic Period, when Late Stone Agers took to grinding and polishing tools. In sites at least 7,000 years old, archaeologists have found razorlike objects made of animal horns, flint and other kinds of stone. Crude cave drawings reveal short-beard-

INTRODUCING THE WORLD'S FASTEST GROWING CLASSICAL MUSIC MAGAZINE. START WITH A

BBC

FREE Classical CD

- Exclusive Magazine
- Exclusive CD
- Plus FREE CD buying service

FREE Classical MAGAZINE

With No Obligation... No Risk... And Nothing More to Buy, Ever! See details below.

The BBC Music Magazine.

With its broad scope and lively approach, this beautiful magazine has enormous appeal for long-time collectors as well as to those just developing an interest in classical music. It covers all aspects of classical music—live, broadcast, and recorded—in equal depth. Over 100 luxurious pages of photographs, features and columns, an international events calendar guide... plus over 100 new CDs reviewed and rated each month. Indubitably, a complete guide to classical music!

Exclusive Full-Length CD Every Month!

With every issue of the BBC Music Magazine you will also receive each month, a full-length Compact Disc that is not available anywhere else... **an entire featured work** (not a compilation of short excerpts) recorded to the highest quality classical standards and handsomely packaged in a jewel case... not in a paper sleeve.

A Personal CD Buying Service.

You may order CDs reviewed in the BBC Music Magazine through the BBC Classical Music Service, if you wish. A convenient way to shop but never an obligation.

Add New Excitement To Your Collection!

The monthly CDs alone will add the cachet of exclusive, superbly recorded special performances to an already well-balanced collection. For the beginning classical library, they become the nucleus to build around. And the BBC Music Magazine's reviews and ratings of the latest CDs, and its features and columns will greatly enhance your knowledge and appreciation for classical music.

Satisfaction Guaranteed!

Simply phone toll-free or fill out and mail the coupon for your free copy of the BBC Music Magazine and free CD. Listen to the CD and read the magazine. If not satisfied for any reason, return them with no further obligation.

©1995 Warner Music Enterprises

For this special offer, call toll-free

1-800-972-3700

Dept. B1E or mail the postage-free reply card.

Guaranteed Price Protection: You will always be guaranteed the low price of $3.98 plus shipping and handling every month for both the magazine and CD for as long as you remain an active member in the program.

YOUR COMPLETE GUIDE TO CLASSICAL MUSIC

Mail to: BBC Classical Music Service, Box 30628, Tampa, FL 33630-0628

❑ Yes, Please send my FREE copy of BBC Music Magazine plus my FREE CD. Bill me for just shipping and handling. Thereafter, I will receive the *BBC Music Magazine* and an exclusive CD every month. As a member, I will always be guaranteed the low monthly price of $3.98 plus shipping and handling. I may also receive, up to four times a year, special issues at the same low price plus shipping and handling. I have no obligation to buy anything ever and I may cancel at any time.

B1E

❑ Check here if you prefer your monthly recording on cassettes. G4

Name _____ (please print)

Address _____ Apt. # _____

City _____ State _____ Zip _____

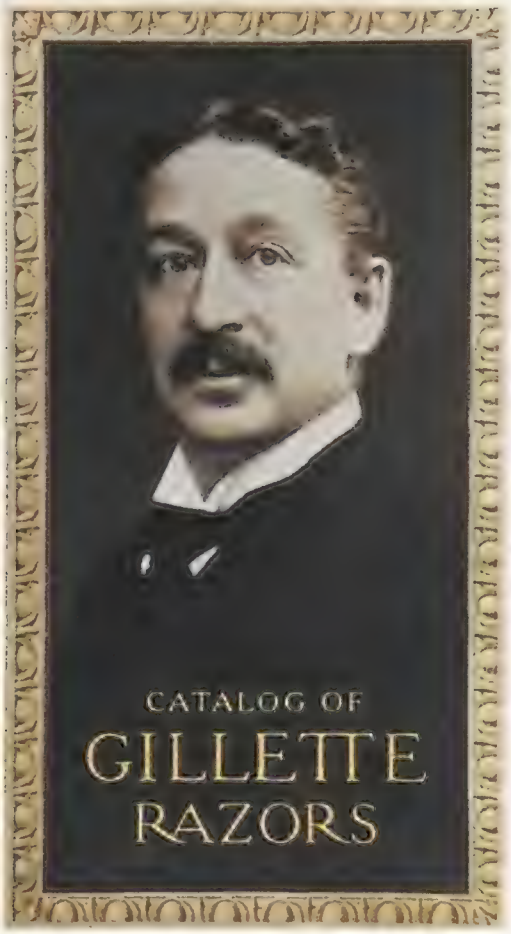
Phone ( ) _____ Age _____

Have you bought anything by mail in the last: ❑ 6 months ❑ 1 year ❑ Never

Do you have a credit card? ❑ Yes ❑ No

We reserve the right to ask for additional information, reject any application, or cancel any membership. Please allow 4-6 weeks for delivery of first issue. Limited to new members; one per family. Local tax, if any, will be added. In Canada: $5.98 Canadian plus shipping and handling and GST.

Both: Michael W. Thomas / Stock South



Some would argue that the modern throwaway society began with the invention of disposable razor blades.

Smithsonian Archives

King Camp Gillette (left) got the idea while he was working as a salesman for a bottle cap company.

ed and clean-shaven men. It's doubtful that feminine demands had much to do with the practice; with a growing population and competition for resources, the trimming of beards had a certain utility. This aspect is suggested by a 5,000-year-old bas-relief from Egypt's 1st Dynasty. It shows King Narmer putting the sword to an enemy, while firmly grasping the victim's hair. In hand-to-hand combat, hair was such a liability that Egyptian warriors shaved their heads as well as their faces.

As with the habit of cleanliness, shaving never "progressed" toward any golden era. Beards fell in and out of fashion. In the fourth century B.C., Alexander the Great went beardless, in part because he thought his profile handsome but also for military purposes, and so ordered his men to keep shaven. Diogenes, that Greek seeker of an honest man, railed against the practice, maintaining that clean-shaven men were trying to change their sex.

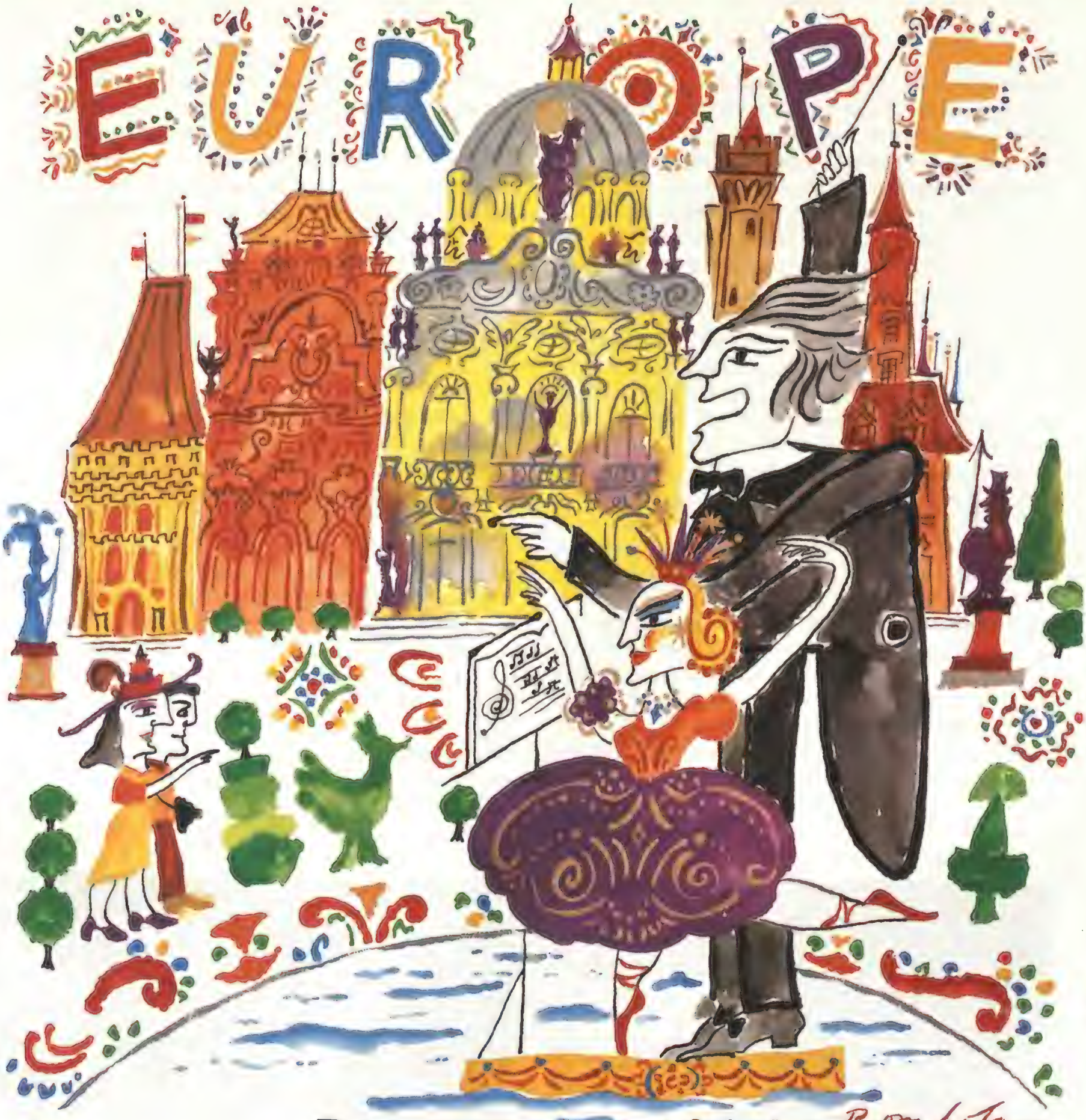
In Rome, while the wealthy went clean-shaven, slaves and members of the lower classes were consigned to wear beards. (The word "barbarian," meaning "bearded one," once referred to the unshaven hoards who eventually sacked the empire.) Conversely, in Turkey it was the slaves who were forced to shave, as flowing beards signified status. In most of Europe, it was the monarch who set stylistic standards.

During the Industrial Revolution, artists created images of powerful engines driving razor-studded revolving drums, machines that could shave "sixty men a minute." It was a comment on time wasted in barbershops, a knock at some of technology's promises, or both. In real life, technology still had not improved upon the straight razor, a device that in the 18th and 19th centuries reached its greatest refinement. Made of steel with hollow-ground blades and featuring ornamental handles made of ox horn, these elegant and finely balanced instruments were turned out one at a time by cutlery makers in Sweden, Switzerland, France, Germany and, most notably, in Sheffield, England.

As Holmes suggested, shaving still remained awkward. But if a man took his blade to a skilled grinder for an occasional sharpening, and didn't allow it to rust, a quality straight razor could last a lifetime. And then a fellow named Gillette managed to change the face of shaving.

King Camp Gillette (above, left) was the son of inveterate tinkerers. His father ran a hardware business in Chicago and held several patents. His mother wrote a cookbook that sold three million copies. But as King turned 40 in 1895, he toiled as a salesman for a bottle cap company. His employer, who had invented the cork-lined bottle cap, passed on some advice: "Why don't you try to think of something like the Crown Cork, which

Jay Stuller, who last wrote about a day in the life of the Dallas/Fort Worth Airport, grew what he calls a "mean-looking" goatee while writing this article.



Be a part of it!

MAKE THIS *YOUR* YEAR to experience the Europeans' Europe. From pageantry to pub-crawling, fairytale castles to fine fashions, Old Masters to new romance—the Europeans will welcome you with their flair for the good life.

Equally warming is the fact that today's Europe is so affordable for American visitors.

So call for the 60-page *Planning Your Trip to Europe* guide, presented by the 26-nation European Travel Commission in cooperation with American Express, Rail Europe and American Airlines. It's an authoritative, colorful introduction to the very best of Europe, packed with maps, photos and suggestions on where to go, what to see—and how to save.

FREE 1-800-816-7533

AMERICAN EXPRESS TRAVEL RELATED SERVICES
An American Express company

Rail Europe

American Airlines

EUROPEAN TRAVEL COMMISSION MEMBER COUNTRIES: AUSTRIA • BELGIUM • BULGARIA • CYPRUS • CZECH REPUBLIC DENMARK • FINLAND • FRANCE • GERMANY • GREAT BRITAIN • GREECE • HUNGARY • ICELAND • IRELAND • ITALY LUXEMBOURG • MALTA • MONACO • NORWAY • POLAND • PORTUGAL • SLOVENIA • SPAIN • SWEDEN • SWITZERLAND • TURKEY

when once used is thrown away, and the customer keeps coming back for more—and with every additional customer you get, you are building a foundation of profit."

Gillette thought up a new kind of safety razor. On the one hand, it freed a man to self-administer a quality shave in the convenience of his own bathroom. On the other, Gillette's diabolical system worked with blades that wore out and couldn't be resharpened, which guaranteed a demand for refills. Ever since, the razor has served as a symbol of the Throwaway Society.

Inventors had tried to make razors with guards to prevent the blade from deeply penetrating the skin. But the blades were permanent fixtures, difficult to sharpen, and quickly lost utility. As pricey as a straight razor, these found a limited market.

Several metallurgists told Gillette that putting a sharp edge on inexpensive sheet metal was impossible. With the help of another inventor, William Nickerson—whose name obviously couldn't go on a razor—he eventually found a way to harden the thin steel. In 1903 Gillette offered a razor and 20 blades for $5. By the end of that year, he had sold 51 razor sets and only 168 additional blades.

Just two years later, however, the product had taken hold. Gillette sold 250,000 razors and 100,000 blade packages. The "Razor King" pushed society away from barbers, away from the idea of durability and down the throwaway path. He ran ads that claimed: "If the time, money, energy and brainpower which are wasted in the barbershops of America were applied in direct effort, the Panama Canal would be dug in four hours." It irked Gillette when customers bragged about using the same blade for months, although his company once boasted that each could provide 20 to 40 shaves. It bugged him even more when they took old blades to hardware stores for sharpening. But the issue of blade disposal required some adaptation, especially at a time when a lot of trash went into hog food. Builders started putting slots in bathroom cabinets so blades could be dropped into walls, out of sight and mind.

As Gillette began to earn millions, competition arose. Col. Jacob Schick used his knowledge of the repeating Army rifle to come up with a blade-injection system, so consumers didn't have to handle the still-dangerous objects. Such razors were touted as "one of the greatest mechanical inventions of the 20th century." *Collier's* magazine opined: "Shaving as it is practiced in America today marks a step forward in civilization."

Grumbled Henry T. Lummus, who in 1922 had a superb collection of Sheffield razors: "The majority of young American men now hoe their faces with 'safety' razors—a process that bears the same relation to shaving as clam-digging bears to dry-fly fishing."

But Gillette actually transcended the 20th century with an idea for the ages. "For several thousand years there'd been changes in blade materials, from flint to

Nightmare instruments (left) shaved ancient chins: the crescent, a bronze razor, may be 3,500 years old.

bronze and steel, and different holders," says Warner-Lambert's Wexler. "Yet blades were always a free straightedge, which did not provide real control. Shaving was a matter of touch and pressure, best done by a trained hand."

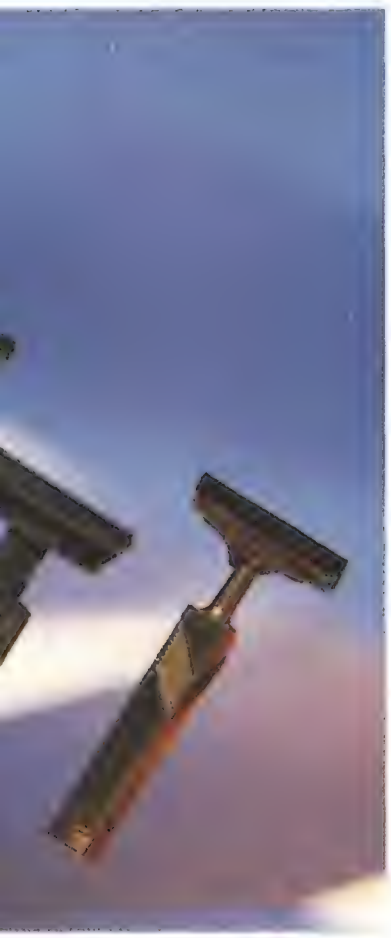
All razors today have a leading-edge guard, or bar, and internal parts that hold the blade at a prescribed angle. "If the angles are large and expose more of the blade, you get a more aggressive shave," says Wexler. "Smaller angles give a safer shave. The entire focus of razor design is to find the balance between closeness and safety."

Since the 1970s, that balance has come together. Twin-bladed, cartridge-style razors were a major advance, cutting whiskers through what's called "hysteresis." As a hair is being cut by the leading-edge blade, it's lifted slightly from its follicle; the trailing blade, separated from the first by about 60-thousandths of an inch, then cuts the hair closer to the skin's surface, if not even a bit below. Front-line razors with dual-bladed cartridges also have pivoting heads, lubricating strips on top, and "dynamic" blades that actually bend and flex to the contour of the face. Even cheap, plastic throwaway units are superior to the razors of the 1960s.

For those who still distrust blades, electric razors have some distinct advantages—and some trade-offs. While an electric razor can certainly nick, it will seldom leave scars. Most electrics now shave as closely as blades, at least according to their fans. But unlike blade shaving, electrics do not exfoliate dead skin, which is in part why a wet shave feels fresher. Still, electric razors have one edge in that they cut hairs blunt and flush with the skin. Blades tend to leave an angled stump. For men with curly hair, these sharp stumps can curl back into the skin, creating irritated, painful and infected pustules, a condition known as *pseudofolliculitis barbae.* "We really don't have any answers for it," concedes Wexler, a man who can pronounce the affliction with mellifluous ease. In the quest for semiperfection, research goes on.

"There will always be advances," continues Wexler, "although more will be in design than with materials. We have a new razor for women, for example, in which twin blades are wrapped with a microfine wire. It looks funny, but the wires don't interfere with the shave and they help prevent nicks and cuts, a woman's top priority in choosing a razor."

Today an average man gets about ten shaves per blade, a long way from the one or two shaves of the early blades. Still, razor companies have long been the subject of suspicion. The late Charles McCabe, an irascible columnist for the *San Francisco Chronicle,* used to devote an annual screed to the theory that when these firms brought out new products, they would be of the highest quality. But as soon as consumers were hooked, McCabe contended, the companies would nefariously slash quality to make higher profits.



Evolution of safety razor can be traced in center picture; today blade and many razors are disposable.

Array above shows the same for the infamous straight razor; a Sheffield from 1741 is fourth from the right.

The sometimes-bloody battle of the blade

"The question I always get at parties," says Wexler, "is how we can load a good blade at the top of a package, a good one at the bottom, but have a bunch of duller blades in between." On a tour of the factory I decided that while it could be done, it wouldn't be easy.

Blade-making starts with a long ribbon of stainless steel about an inch wide and four-thousandths of an inch thick, wound tightly into coils that look like shiny, three-foot-diameter CDs (opposite). Spinning from its coil, the string of metal is first fed through a perforation machine that punches holes to fit onto plastic or metal parts of a razor. Rewound, it's then run through furnaces, where heat changes its crystalline structure, and through a box that freezes the metal, locking in the change. Meanwhile, plastic-molding machines punch out handles, cartridge heads and other tiny parts.

Before the string is cut into blade-size pieces, it passes through a series of grinding wheels. "The part that's sharpened," says Wexler, "is only a few thousandths of an inch at the edge of the blade." It's not yet ready to cut whiskers, however. Blades are made with thin layers of chromium and Vydax, a product similar to Teflon. ("The coating facilitates the cutting," Wexler notes. Looking through an electron microscope at a heavily used blade, one can see where the Vydax has peeled back, and where the steel grows jagged.) The string of metal is now chopped into blade-size pieces and loaded 10,000 at a time into magazines that are fed into automated assembly machines.

Within the factory are production lines making double-edged blades for razors that seem as antiquated as flint. In fact, Schick still makes injector sets, almost identical to the ones invented by the Colonel. This is akin to Sony having a market for black-and-white television sets. Observes Wexler: "There are folks who simply don't want to give up their old razors and blades." So how bad could they be?

Old razors aren't antiquated if put into the right hands. The device chosen is only part of the equation. Shaving can actually be pleasurable, with any kind of razor, if only we weren't in such a hurry to dig the Panama Canal. The key is preparation. A good shave begins well before steel touches skin.

This is evident to anyone ever ministered to by Bill Sibilia. Now retired after more than 65 years of barbering, Sibilia was a fixture in a shop on San Francisco's Market Street. For a mere $9, he could shave you straight to Nirvana.

Anytime I want to relax, I simply imagine that I am back in his chair. Sibilia starts the process by smearing one's face with lotion, then covering it with hot towels. This softens the skin and whiskers, and removes the fats and oils that keep a blade from cleanly slicing whiskers. He then covers the face with shaving cream. While the old shaving mug and brush were once a symbol of masculinity, soaps are inferior to today's creams and gels. It's the water that moistens and softens whiskers; lather simply holds in the moisture. Soap dries out before a proper shave can be completed.

Sibilia then shaves off the whiskers, going with the grain, then sideways. "Go against the grain and you get blood," he explains. "Go with it, and you don't get a close shave." You can hear the razor more than feel it. When finished, he rubs mentholated cream onto the face, applies another hot towel, and then slaps on astringent antibacterial lotion to close the pores and prevent infection. A pat with talcum powder leaves a once-ragged face soft as a baby's bottom.

Most barbers today give shaves with professional-style safety razors, similar to consumer models but with longer blades. A throwback, Sibilia uses a straight razor. "It was made in Germany," he says. "I keep it sharp with a hone and strop. A Navy friend gave it to me. That was in 1942. It belonged to his grandfather. So I figure that this straight razor," he adds with a grin, "is probably 100 years old."

At the Shaving Research Center in Milford, Hal Kanner signs in and starts taking off stubble with a razor that may be less than 100 hours old. A retail salesman, he's been shaving professionally for three years. "It's long enough," he says, "to where I can tell when they're trying out a new blade."

Kanner's family is amused by this second vocation. "But my father-in-law thinks it's a smart way to make an extra six bucks a day. And by the time I get here, at least I'm awake when I shave."

Which is more than you can say for most of us.

Carl Hultman checks as a ribbon of stainless steel is perforated and hardened before being cut into blades.

[ALL THOSE TIRED OF CLIMBING IN A

Getting in and out of a sport utility vehicle can be an adventure in and of itself. That's why we created the all-new Jimmy from GMC Truck. One of the first things you'll notice is a lower step-in height. This was achieved without sacrificing ground clearance — an engineering breakthrough. Jimmy still comes with all the strength and reliability for which vehicles from GMC Truck are known. Like a boxed frame for improved riding comfort, Insta-Trac® 4WD, and as standard equipment, the Enhanced 4.3L 195 hp V6 engine — one of the most powerful in its class. Specifically designed to appeal to those drivers who appreciate the best of both worlds, Jimmy combines sophisticated luxury with proven GMC

ND OUT OF A TRUCK, STEP RIGHT UP.]

Truck strength. Inside, you'll discover a remarkably quiet interior, plus all the comforts you'd normally find only in a luxury sedan. Things like available leather seating surfaces with an adjustable power driver's seat. Plus a CD player, should you prefer one. And for the first time on a sport utility vehicle, a choice of suspension systems depending on the kind of ride you're comfortable with. There's a standard driver's side air bag,* four-wheel antilock brakes, and steel reinforced side door beams to help keep you safe. For more information, give us a call at 1-800-GMC-TRUCK. Or, better yet, visit a GMC Truck dealer for a test drive. We'd love to show you just how easy it is to get into a new Jimmy.

GM Quality Network

©1994 GM Corp. All Rights Reserved. GM, GMC, GMC Truck, Jimmy and the GMC Truck logo are registered trademarks of General Motors Corporation. Buckle up, America!

*Always wear safety belts, even with air bags.

GMC TRUCK JIMMY®
THE STRENGTH OF EXPERIENCE

By Paul Trachtman

Charles Csuri is an 'Old Master' in a new medium

When a big mainframe first showed up at Ohio State University, this member of the art faculty began moonlighting across the quad

Csuri created the 3-D self-portrait on the monitor by mapping the contours of his head with a laser scanner.

In the short history of computer art, there are no Rembrandts or even Picassos. But there is Prof. Charles Csuri at Ohio State University, who may be the nearest thing, in this new art form, to an Old Master.

Csuri is old enough, at 72, to have taken part in much of the art history of our times, and to love much of what came before. He learned to draw as a boy, in classes at the Cleveland Art Museum, "copying Rembrandts before I knew who Rembrandt really was." As a young painter he tried his hand at Cubism, was at home among the Pop artists and happenings, and made large word montages to be contemplated by the cognoscenti of Conceptual Art. But what set him apart was a decision he made in 1964 to turn the computer into an artist's tool. "I wanted to do something different," he recalls. "To be the first one to do something in this field."

The computer confronting him at the time was a huge mainframe that required the entry of its data in the form of punched cards. There was not even a monitor for Csuri to stare at. He had to become a programmer to talk to it, and then he had to wait while a spindly, robot-like arm holding an ink stylus moved laboriously back and forth across a big drum to put his images on paper. Undaunted by the difficulties, Csuri began an odyssey that would challenge his imagination, and his endurance, for the next 30 years.

Some critics say "computer art" is an oxymoron, an abomination that has more to do with flying television logos, video games and high-tech movie animation than with anything that might hang on gallery or museum walls. Indeed, since the late '50s, when computers first began making pictures, most of the images have sprung from the imaginations of engineers, not artists.

Until recently, computers powerful enough to make interesting images were usually located in huge government, academic or industrial enclaves, where artists feared to tread. Even in the '80s, rare was the intrepid artist like David Em (SMITHSONIAN, March 1988), who found shelter for his computer experiments in the Jet Propulsion Laboratory, at night, after the scientists went home. Today, as smaller computers give artists more access to this new medium, only a relative handful of visionary painters have made it their own. Even as inven-

Cubes and lines are spatial reference marks that will allow him to program an infinite variety of positions.

tive an artist as David Hockney, who has worked with color copiers, fax machines and Polaroid cameras, kept the computer at arm's length until five years ago.

Through these decades, Csuri has been typing away—in the arcane jargons of computer languages, scripts, codes and menu selections—evolving from his first ink squiggles to a new universe of artistic possibilities. For most of those years, he wasn't making any art at all, except in his mind. He was developing the tools he would need to make the kind of art he could only imagine. He was also teaching graduate students the essentials of computer graphics and animation, raising funds for research, skirmishing with university officials for space and equipment, and dreaming of the day he could devote himself fully to his art again. That day came five years ago, and Csuri now draws and paints and sculpts electronic images every day, seven days a week, working in a feverish race with his own mortality.

Although there are now some powerful paint programs that allow artists to draw with an electronic stylus on a touch-sensitive tablet, and watch their work appear on the screen while the computer provides a choice of brushstrokes, colors and other electronic effects, Csuri largely forgoes this more direct interaction with the computer. Why is he still typing? I ask him, as he sits in front of the computer. "An artist like David Hockney can do some interesting things with a paint program, I'm sure," he answers, "but that two-dimensional paint stuff is not really what's exciting."

Esthetics, culture and history still count

Csuri wants the full power of a sophisticated computer at his fingertips, which lets him sculpt images in three dimensions, view them from any angle, set them in motion, and alter them in ways that often blur the distinctions between special effects and art. Although some of his work is done with a mouse, moving a cursor around the screen, much of it still requires knowledge of programming. But Csuri insists that he is not interested in technology for its own sake. "Just because the computer can do perspective and beautiful shadows and shininess, or make things look like glass," he says, "you still need to have an esthetic sensibility, you need a sense of culture and history. That has not changed." Art is what excites Chuck Csuri most.

What excites him is on the screen in front of us, a three-dimensional model of a human figure that he is posing by adjusting the angle of each joint. By moving the mouse, he places a small sphere over a joint, then rotates the sphere. The joint rotates, folds and flexes in various directions. The figure looks remarkably like a clay or Plasticine model as Csuri extends an arm, bends a knee, straightens the waist and cocks the head to the side a bit. Csuri clicks the mouse, choosing from a menu of "display modes," and suddenly the posed model loses its Plasticine skin and appears as a wire-frame sculpture we can see right through. Another click and it starts tumbling head over heels. Then he sets it upright again, and we watch it rotate as if it were on a turntable. Csuri restores its Plasticine skin and, as his fingers move to the keyboard and type a command, the model appears to be fragmented, with random bits and pieces of it blown out into space by some explosive inner turmoil. "Would you like to see it in shiny brass," he asks, "or red plastic?"

Csuri goes back to his original model again and begins adjusting it into a new pose. "I'm trying to get a kind of dancelike quality," he says, and there is indeed a

strange grace to the model's pose. "Oops!" he says, as an arm flies into an anatomically inconceivable gyration. "You can sort of lose control," he laughs.

In his own mind, Csuri is still a painter, but his palette now includes much of the same computer magic that dazzles us in advertising and entertainment, and many of his students have gone into those businesses. But Csuri's focus is on a new way of making art. He is excited by the new tools he has developed, but he's not dazzled.

"We're supposed to be doing things that are avant-garde," he says. "But even though we have all this marvelous technology, the problems for the artist are still the same. You can very easily be seduced by some special effect, but that in and of itself doesn't do it. You have to have some way of communicating what you feel as a human being."

As I watched Csuri work at his computer for several days, and sat in his living room filled with masks from Africa and large wooden sculptures by his wife, Lee, and poked around in his basement to see oil paintings he'd made 40 years ago, I began to grasp the dimensions of what Charles Csuri has accomplished, and who he is. He was born on July 4, 1922, the son of Hungarian immigrants. His father, a West Virginia coal miner, was injured in the mines and, when the family moved to Cleveland, became a shoemaker. In high school Chuck majored in machine shop and played football. "I loved to draw," he says, "but we were just coming out of the Depression and the idea of being an artist or even going to college was simply out of the question." His high school football coach, however, had a contact at Ohio State and thought Chuck could make the team there.

He more than made it. At six feet and 210 pounds, Csuri was the smallest tackle in the Big Ten, but in his junior year Ohio State won the national championship and Csuri was named an all-American, voted most valuable player by his teammates and elected captain of the squad. The roar of the crowd as he blocked a Michigan punt in the last game of the season is still in his ears.

A three-year hitch in the Army during World War II interrupted Csuri's college years and changed his life. At the Battle of the Bulge, he was with a forward artillery observer group, moving ahead with the infantry as his unit ran into trouble. "It was winter, very cold and wet," he recalls, "and the situation was quite desperate because we were surrounded by the enemy and our telephone lines, our means of communication, were knocked out, and we had to get word back to our headquarters unit to get assistance. The captain asked for volunteers, and why I did it I have no idea.

"I remember going across an open field where people were shooting at me all over the place. As the bullets whizzed by, and as I heard the shells explode, I tripped and fell from time to time. I thought I was going to die."

Csuri was awarded a Bronze Star, but the experience left him feeling something other than heroic. "Only an idiot would do something like this," he thought after his run. The sight of dead Germans and body parts lying around, and his own brush with death, shifted the mind-set that had made him such a success in football. When he returned to Ohio State, several offers to play professional football awaited him. He turned them down. "I didn't want to beat up anybody, and I didn't want anybody to beat me up." He graduated Phi Beta Kappa and, using the G.I. Bill to pay for further education, enrolled in the graduate school to study art.

In the Fine Arts Department at Ohio State, Csuri met teachers who were still involved with the ideas of the 19th century: "One of my first teachers was James Hopkins who, as a young man, had met Degas in Paris, and he'd also met Renoir. He had a kind of sensibility about what it was to be an artist in France at the turn of the century, which he communicated."

Csuri also became friends with a fellow student, Roy Lichtenstein, whom he'd known slightly as an undergraduate and in the service. Lichtenstein, who had grown up near the Museum of Modern Art in New York, had a sophisticated sense of the avant-garde, which Csuri began to soak up. After graduate school the two of them joined the art faculty and shared an office—as well as new ideas.

A brief marriage ended in divorce, as Csuri immersed himself in his painting and teaching. His studio quickly achieved the ambience of a football field after the kickoff, with paint spattered everywhere, on walls, floors and artist alike. Tubes of paint he'd stepped on dried the way they squished out. "I felt I had to attack the canvas," he recalls, "almost as a physical event in the way I

Former Board Editor Paul Trachtman, who lives in northern New Mexico, divides his time between writing, painting and printmaking.

To make *Introspection*, Csuri copied the bust on the left, then turned it around and broke it into slices.

In *Wondrous Spring* (1992) Csuri uses the forms of flowers to explore the possibilities of color as light.

Masaccio's 15th-century fresco *The Expulsion from Paradise* was the inspiration for *Phases of Mourning.* Csuri got the 3-D digital data for the figures from an Air Force pilot-physique study for cockpit design.

built up the painting. I tended to paint very fast, working on large canvases in the studio, or going out to paint a landscape in an hour. I thought I was Van Gogh."

The paintings themselves were moving with the artistic currents of the 1950s and early '60s. "They tended to be semiabstract and very gestural," he says, "but always concerned with the figure. I got cubistic for a while, and I mixed pumice into paint. I've painted with oil and acrylic, and I've poured paint, and spread it with knives, and I've walked in paint. I've done it all."

He was teaching half-days as well as painting, and it was in one of his classes that he met his future wife. Lee Csuri, 45 years later, recalls thinking then that all football players were "a bunch of jerks and idiots." On the first day of her painting class she asked another woman student who Csuri was. "You don't know?" her friend exclaimed. "That's Chuck Csuri. He's an all-American football player. He's our teacher."

A year later they got married and set up two huge easels in their dining room. Eventually there were two children as well. In the years that followed, Csuri's work began attracting serious attention. As Roy Lichtenstein moved into the New York Pop Art world, Csuri was tempted to follow. Two solo shows of his work in New York galleries won critical praise. The sculptor George Segal came to Ohio to judge a regional art show, gave Csuri first prize and asked to meet him. They became friends, and Segal later had Csuri pose for one of his famous plaster figures, *The Diner.* Lee got ready to move to New York, but Chuck decided not to go. "I'm very cynical about what's happened in modern art," he now reflects, "and that includes Pop Art as well. I have a regard for Pop Art, but I don't have any feeling for it. It's all cerebral. It isn't anything that inspires any passion, any real emotion. The last artist to do this for me was Picasso. Even though he was a Cubist, and did some crazy things in terms of how we work with color and space, he was aware of mythology, of humanity, and was able to communicate that. It's hard to find that anywhere else in the last 50 years."

This malaise about modern art was the seedbed of a decision that, once again, changed his life. The seed was a dormant intellectual curiosity about the computer. In the mid-'50s, Csuri and an engineer friend began to engage in casual, philosophical conversations about the computer and its possibilities. They speculated, for example, on how you could program a computer to produce art criticism or new theories of esthetics. But

Mrs. Braithwaite's Geography Students Learn It's A Small World After All.

Communication makes the world go 'round. That's what Barbara Braithwaite's seventh grade geography students have been learning through an innovative program she calls "Project Norway."

Rather than just reading about Scandinavia in their classroom in Swiftwater, Pennsylvania, her students are sharing cultural experiences with students in Heggedal, Norway, by exchanging letters, essays, photographs and souvenirs. Through "Project Norway," the students of both countries are learning that teenagers are alike regardless of ethnic heritage, cultural background, or where they live. And, learning to concentrate on similarities instead of differences is, after all, a very valuable lesson.

Last October, Barbara's students turned miles into smiles when they welcomed 46 of the Norwegian students and their teacher, Anne-Marie Hagen, for a 10-day visit to Swiftwater.

For turning distance into closeness, State Farm is proud to present Barbara with our Good Neighbor Award, and a $5,000 donation in her name to Pocono Mountain Intermediate School.

STATE FARM INSURANCE

Good Neighbor Award

STATE FARM INSURANCE COMPANIES
Home Offices: Bloomington, Illinois

Anne-Marie *Barbara*

The Good Neighbor Award was developed in cooperation with the National Council for Geographic Education.

they'd never imagined it as a tool for making art. Then, in 1964, in a research publication from the university's Department of Electrical Engineering, Csuri saw the face that launched a thousand ideas. It was a female face in profile, generated by the university computer with a primitive typewriterlike printer that could create contours and shades of gray. "When I saw that first picture," Csuri recalls, "I could not believe what I was looking at. I saw the implications, and it hit me like a bolt of lightning. I immediately enrolled in a computer programming course."

The sight of Professor Csuri walking around with a big programming manual under his arm was met with dismay by the Fine Arts faculty. And as he began sitting for hours at the university mainframe, among engineers and computer scientists, instead of working with paint, the art faculty's dismay turned to hostility. "They thought I was insane to do something like that," Csuri laughs. "But because I had tenure, they just didn't know what the hell to do with me."

The engineers and computer scientists proved friendlier, patiently explaining their procedures to this naive artist who put their mathematical notions to the most fanciful use. For one early image, Csuri drew a housefly and digitized it, meaning that he gave the computer the numerical coordinates of various points along the fly's contours. Then he had the computer print out 200 such flies, using a random-number generator to determine their placement, size and rotation. The result was a piece of art Csuri called *Flypaper.*

Sensing a significance underlying such whimsy, several of the scientists urged Csuri to apply for a National Science Foundation grant and helped him write the application. To Csuri's amazement, in 1968 the NSF awarded him $100,000 to investigate the potential of computer graphics for the visual arts. At one meeting with NSF officers, he saw two of his computer art pieces framed on their office walls. "I knew I had a chance then," he says.

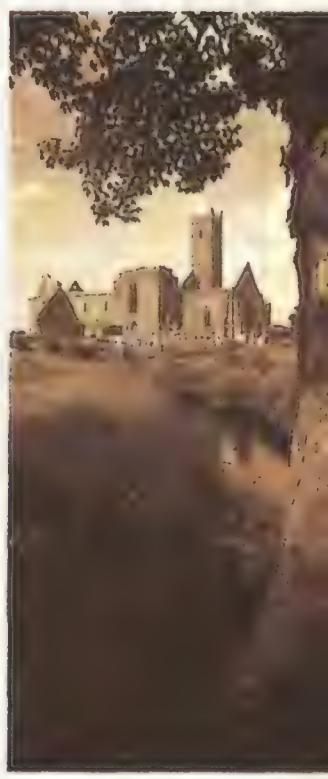
Over the next 25 years, Csuri received 25 NSF and other research grants totaling more than $7 million. Much of this research had specific goals, such as the development of 3-D computer animations for training tank or helicopter crews. Yet such projects allowed Csuri to train scores of students in computer graphics and animation techniques, and to advance the computer as a medium for artists. To facilitate his work, the university moved Csuri from the Fine Arts faculty to the more tolerant Department of Art Education. He was also appointed professor of computer science.

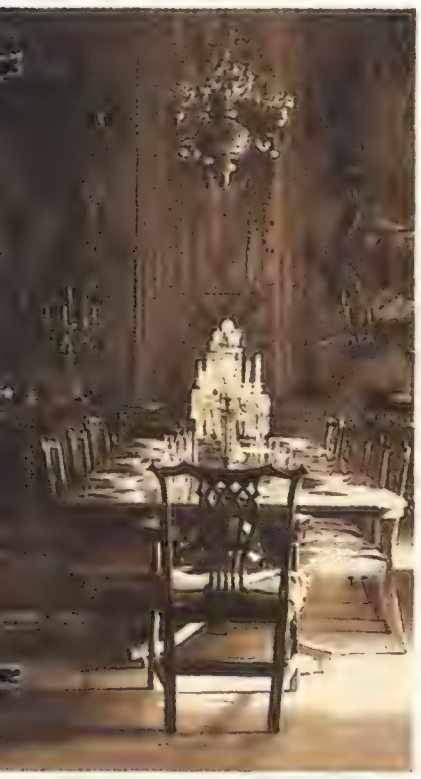
At first, Csuri felt a sense of inferiority among scientists at national meetings and conferences. "In most cases when there's an encounter between artist and scientist," he says, "the artist doesn't fare very well." But as he continued to get grants, his confidence increased. "I was playing their game," he says, "and winning."

Lee recalls a conference where Csuri met Ivan Suther-

A horse and a dancing figure are freed from the confines of time and space in *Greeting the Morning*, a recent work.

To the force of gravity and the song of the Sirens, may we respectfully add the lure of Ireland.





Discover the elemental effect Ireland has had on travelers since a time when only the wind and tides drew them to our shores. Enjoy an Ireland Vacation from $39 per day for bed & breakfast and car rental. Call for a vacation planner.*

IRELAND

The ANCIENT BIRTHPLACE *of* GOOD TIMES.

*Price per person based on double occupancy and Group A car rental

For a free vacation kit, send in the coupon to Ireland Vacations '95, Post Office Box 7728, Woodside NewYork 11377 or call 1-800-SHAMROCK extension 183.

Name_____

Address_____

City_____ State_____ Zip_____

The faces for *Mask of Fear* were scanned from an acrylic painting, then wrapped onto distorted spheres.

land, an engineer who pioneered in developing the graphics for pilot-training simulators. "He was disparaging toward Chuck, yet he seemed self-conscious about doing art with an engineering background. And Chuck was feeling that engineers were so much smarter than he was. So one night after the meeting, as we were all sitting around drinking and feeling no pain, I told Ivan, when you go home tonight you should stand in front of the mirror and say, 'I am an artist! I am an artist!' And I'm going to stand Chuck in front of the mirror and he's going to say, 'I am a scientist! I am a scientist!' They started laughing, and got along fine after that."

At Ohio State, Csuri created the Computer Graphics Research Group in 1973, which brought together graduate students with an interest in programming, filmmaking and visual art, encouraging collaborations and interdisciplinary thinking. He also helped found a private computer-animation company, which created the National Football League's flying NFL logo, among other projects. In 1984 he established the Advanced Computing Center for the Arts and Design (ACCAD), an expansion of the earlier Research Group.

Two Csuri alumni, Michael Girard and Susan Amkraut, founded Unreal Pictures in Palo Alto to develop ideas they first tried out at ACCAD. What Amkraut remembers most about ACCAD was the freedom to "cross over," to work as both artist and programmer, which she still does. "It was a unique environment," she says. "There really weren't any others like it in the world." At ACCAD one day, she was working out a new program to animate a flock of birds in a realistic way, with each bird flying a little differently. She showed it to Csuri when there wasn't much to see yet, just a "flock of dots" on the screen, but he saw the implications at once and got excited. "You made my day," he told her, and his enthusiasm made hers.

Another Csuri protégé, Jeff Light, now works at Industrial Light + Magic (SMITHSONIAN, October 1990), where he has turned his animated mind from helping to create the dinosaurs in the film *Jurassic Park* to ghosts we can believe in for a forthcoming Spielberg film, *Casper*. What Csuri taught him, he says, was the importance of art history, of keeping the issues of art in focus, "because you can get so caught up in the technology that you forget about the image sometimes."

Csuri kept his own focus as an artist throughout the years of teaching, directing research projects, getting grants and running a graduate center. And in 1990 he "retired" with a permanent office at ACCAD, an annual budget for new equipment, and a passion for art that has lost none of its edge.

Csuri's images are full of mystery, myth, symbol and ritual—ancient elements of art. In his *Celebration of the Cube*, for example, where four figures raise their palms toward a cube floating above them, the spirituality of their gesture is combined with a computer routine that slices two of the figures into separating strips, as if they were fragmenting in the act of surreal prayer.

The way Csuri made this image illustrates the kind of technical complexity an artist must master in this new medium. "When you work with objects in three-dimensional space," he says, "you need to use some kind of language to specify to the computer the position, the scale, the color, the angles of objects, and so on. You can't just push a certain button and get a certain effect." Csuri used a technique called "texture mapping," in which a two-dimensional image is mapped onto the coordinates of a three-dimensional object: in this case, a stylized torso with a spheroid head (taken from a previous work) was mapped onto all the sides of the cube. Similarly the artist set parameters for lighting effects, instructing the computer whether the light source should seem to be from above, from the side or in the background. And each of the figures could be given a different light source, independent of the others. To create the colors, Csuri experimented with a technique called "vertex colors." Mathematically, each figure is represented in the computer as thousands of small polygons, and each vertex, or corner, of each polygon can be assigned a color. The computer can be commanded to blend the colors along a line connecting those corners. What Csuri did was to blend colors over large clusters of polygons, giving a sense of light moving across the figures and through space. Finally, to fragment some figures, he used a "fragmentation routine" worked out previously, which tells the computer how to displace certain clusters of polygons. Yet, beyond all the technical details, Csuri points out, it was his deep interest in the

myths and rituals of many cultures that makes the image work as art.

Increasingly, Csuri's works have explored the passions and pathos of life, as he struggles to make the computer a more intimate and expressive medium. Tragic masks adrift in space, lovers falling apart in each other's arms, dancelike figures entangled in ecstasy or comforting each other in grief are typical. And, at the same time, he is continuing to investigate the technological possibilities of this new medium.

For one recent picture he actually made brush marks with acrylic paint on canvas, then scanned them into the computer. These brushstrokes were then transposed onto the three-dimensional images on his screen, creating a strange marriage between the traditional artist's studio and the intangible electronic space of computer art. And Csuri is now struggling to learn a new programming language that can distort surface textures in fractal-like ways to give him images that look like welded, hammered metal, beaten bronze or some stone artifact just dug up out of the earth.

Csuri is also exploring new ways of displaying his art. Most traditional galleries are resistant to computer images. Where they are shown at all, it is usually in the form of large photographic prints. Csuri had one such exhibition in Columbus four years ago. His work is now included in a new CD-ROM as part of a "virtual gallery," where viewers see an artist's work on a simulated wall and can zoom in for a closer look at pictures they like, get a biography of the artist and find out how to buy the work. Csuri foresees similar cyberspace galleries springing up on the Internet, and he's ready to take part.

At home with Lee, Csuri relaxes among her sculptures, which form a wooden bestiary drawn from myths, folktales and bedtime stories. Thinking of his early days as an artist, of his first teacher who had met Degas in Paris, and of his latest artistic battles with the computer, he says, "I feel as if I've spanned the century."

Before his involvement with computers, Csuri was an accomplished painter. He and his wife, Lee, here with two of her sculptures, met 45 years ago in a college art class. Both work in their studios seven days a week.

LINCOLN-MERCURY DIVISION Ford *MicronAir® is a registered U.S. trademark of Freudenberg Nonwovens. *Based on a comparison of Mystique and Nissan Altima, Mazda 626, Pontiac Grand Am and Mitsubishi Galant. **Some features are optional*

Eat No One's Dust.

All-New Mercury Mystique With Exclusive MicronAir® Filter.

Here, quite literally, is a breath of fresh air in automotive design. The new Mercury Mystique. The only car in its class with a Micron Air filter that removes virtually all dust, pollen and other impurities from the interior.

The Micron Air filter is particularly useful should you ever find yourself following another car on a dusty road. Then again, given the performance of Mystique's available 24-valve Duratec V-6, such occasions could be rare. And with Duratec, Mystique is the only car in its class* that goes 100,000 miles between scheduled tune-ups.

The Duratec V-6 and Micron Air filter are just two of Mystique's 21 first-in-class innovations. You'll also find things like all-speed traction control, solar tint glass and a remote locking system.**

Drive the new Mystique and you'll see why we feel it's more than just a new car. It's a whole new Mercury. For more information, call 1 800 446-8888.

MERCURY

Hats off to THE BABE!
THE LAUGH-BY-LAUGH, TEAR-BY-TEAR, CHEER-BY-CHEER STORY OF AMERICA'S MOST BELOVED GUY...
"THE BABE RUTH STORY"
BABE
HOME RUN
SAFE AT HOME
BABE RUTH
"BABE COMES HOME"
SEA VIEW HOTEL
PALACE
HOTEL NEW YORKER
STRENGTH

By Robert W. Creamer

'Ruth? He is still in the spotlight, still going strong'

A century after his birth, four decades after his death, the amazing Babe maintains a powerful grip on America's imagination

It is now more than 46 years since Babe Ruth died. In May it will be 60 years since he played his last big league game. Baseball's popularity has risen and fallen in the decades since, and heroes have come and gone. Yet every day Babe Ruth's name pops up on radio or television, in newspaper columns and magazine stories, in casual conversation. Books are published about him. New York's Hofstra University has invited those with a "scholarly" interest in the Babe to attend a three-day academic conference in April to commemorate the 100th anniversary of his birth. Ruth swinging a baseball bat has appeared on a U.S. postage stamp. His birthplace is a National Historic Landmark and museum.

Two full-length movies have been made about him in the 1990s, one for theaters and one for television. Of course, anyone who gets into the headlines these days can become the subject of a movie. Two were made about Amy Fisher when that libidinous teenager was in the news a while back. But Miss Fisher was still hot stuff in the tabloids when her story was rushed into being, whereas the recent films about the Babe were shot nearly 60 years after he hit his last home run. (Will Amy Fisher top that?)

Rutholotry has been around a long time, and some of it gets pretty ridiculous. *Time* magazine called a jailbird named Willie Sutton "the Babe Ruth of bank robbers," and the *New York Times* called Enrico Caruso "the Babe Ruth of operatic tenors." A press release from Southern California described someone as "the Babe Ruth of water-skiing." A photographer made the cover of *Life* for the 100th time and said effusively, "It has taken me 27 years to achieve this record and I like to think of it as the equal of, maybe the superior of, Babe Ruth's."

What is this? As George Bernard Shaw asked 70 years ago, "Who is this Baby Ruth?" Why does he have such a hold on the American imagination?

In 1961, more than a dozen years after Ruth's death, Roger Maris, an excellent but underrated ballplayer, made a successful assault on Ruth's famous record of 60 home runs in one season. That year Maris was subject to extravagant media attention day after day, week after week. It would have been difficult in 1961 to find anyone who had not heard of Maris and his pursuit of Ruth. Yet a decade later, when I was doing research for a book about Ruth, Maris had receded into the shadows, while bank robbers and tenors and water-skiers and photographers were still being measured against an indefinable standard of superiority called Babe Ruth.

In 1974 Henry Aaron broke another of Ruth's hallowed marks, this one for most home runs in a career. As Aaron approached and passed the Babe's record of 714, he too became the eye of a hurricane of attention. Aaron finished with a total of 755 homers, well ahead of Ruth, and he is an honored member of baseball's Hall of Fame. But you don't hear Aaron's name every day, you don't feel his presence.

Ruth? He is still in the spotlight, still going strong.

He was born on February 6, 1895, in Baltimore. His father was a saloon keeper, and the family lived upstairs over the bar. Babe, the first child, was named George Herman Ruth jr. after his father. His mother had seven more children after Babe, six of whom died at birth or shortly thereafter. One survived: Mary Margaret, called Mamie, who was born when Babe was 5 years old. Mamie Moberly, a tiny woman not five feet tall, survived her famous brother by more than 40 years, living into her 90s. Small as she was, Mamie resembled the Babe, and she had a warm, engaging, cheerful personality that made everyone like her. Asked in her mid-80s how tall she was, Mamie smiled and said, "Four feet eight. I used to be four feet ten, but I shrunk."

Mamie was fun to be around and so apparently was the Babe, which may explain something about his broad appeal. He could be loud and brash and overbearing, but the old players I talked with invariably smiled when they remembered Ruth and spoke fondly of him. Once, probing for an adverse opinion, I asked an old-timer, "Why did some people dislike Ruth?"

"Dislike him?" he said. "People got mad at him, but I never heard of anybody who didn't *like* Babe Ruth."

Among items on display at Ruth museum in Baltimore is his yellowing hymnal (bottom, right) from St. Mary's.

Holding his catcher's mitt and mask, Ruth (top row, left) posed with team that won St. Mary's championship in 1912. Young Babe was big, strong and versatile. In one game, he caught, pitched and played third base.

When he was a small child Ruth was a holy terror. He had incredible energy, was relentlessly active and was always in trouble. He played hooky from school. He stole fruits and vegetables from stores, threw them at truckdrivers and ran and hid from the police. He drank beer and whisky he found in his father's bar. He was impossible. An old sportswriter told me that Ruth was the most uninhibited man he'd ever known. "He just *did* things," he said. He did so many things as a youngster that his father and mother finally threw up their hands and had him committed to St. Mary's Industrial School for Boys, which was not as bad as it sounds.

St. Mary's, an institution in Baltimore run by the Xaverian Brothers, was partly a reform school for kids like Ruth, partly an orphanage, partly a refuge for boys whose families had been torn apart by death or illness or drunkenness, and partly what its name said it was, an industrial training school where boys learned a trade. Ruth himself was trained to be a tailor, and he became a pretty good one. His second wife said Babe liked expensive silk shirts, and when the collars on them became frayed, Ruth, earning a salary far above that of anyone else in baseball, would sit down at a sewing machine and turn the collars himself.

St. Mary's had high gates and iron fences, and the boys in the school, with wry humor, called themselves "inmates." When they were released to their families they called it being "paroled." Ruth was paroled to his family a few times, but he'd get in trouble again and be put back in the school. Until he was released for good in 1914, Ruth spent most of his boyhood behind the gates of St. Mary's.

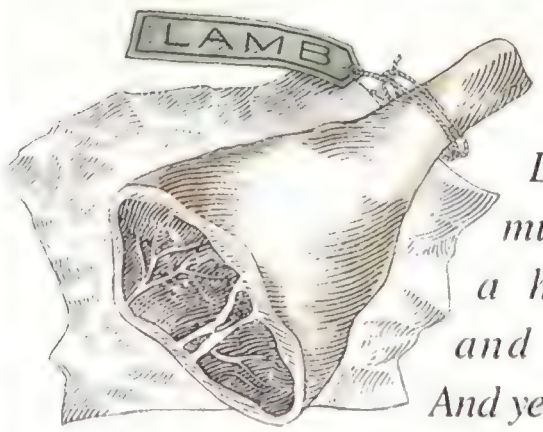
There were 800 boys in the school and their favorite recreation was baseball, which they played from the first warm spell in March all the way into October. Ruth became the best player in the school, first as a left-handed catcher, later as a left-handed pitcher. St. Mary's often played games against teams outside the school, and Ruth was the star. He was big, six feet two and 180 pounds by the time he left St. Mary's, and his reputation spread. Casey Stengel, who was a big league outfielder for 14 seasons before he turned to managing, batted against Ruth in an exhibition game before Ruth made it to the big leagues. Casey remembered, "He had *good*

Robert W. Creamer is a Special Contributor with Sports Illustrated *and author of the acclaimed biography of Ruth,* Babe: The Legend Comes to Life.

"It's Not Your Imagination. This Dog Food

Could Actually Make A Dog More Handsome."

—Robert Urich



Purina O·N·E Lamb & Rice Formula helps promote a healthy skin and shiny coat. And yes, it could even make a dog look a little more handsome.

That's because it starts with real lamb, a high-quality ingredient not found in most dog foods, followed by brewer's rice and other wholesome ingredients. It's naturally preserved with vitamin E. It has no added artificial colors or preservatives. And your dog will find it has a taste he'll love.

It's also good to know that Purina O·N·E makes a variety of other quality formulas for dogs and cats of all life stages.

So try Purina O·N·E brand Lamb & Rice Formula. It's the first dog food of its kind in your grocery store. And considering all its wholesome ingredients, it should be the first of its kind in your dog's bowl.

© 1992 Ralston Purina Company

PURINA O·N·E SECOND TO NONE

First wife, Helen, and adopted daughter Dorothy visited Ruth, wearing Yankee pinstripes, at 1928 World Series.

Ruth happily exchanged pinstripes for an apron on the day of his wedding to second wife, Claire, in 1929.

stuff, a good fastball, a fine curve—a dipsy-do that made you think a little."

There were only 16 major league teams then, with no television and radio to broadcast their games throughout the country. Minor league baseball was important, and most minor league teams were independently owned. The owners relied primarily on gate receipts for income, but they made added money by finding and developing players they could later sell to big league clubs. At that time the Baltimore Orioles were a minor league team in the International League, owned and managed by a man named Jack Dunn. Dunn knew all about young Ruth, and in February 1914 he went to St. Mary's, worked things out with the Xaverian Brothers and signed Ruth to a professional contract, at $600 for the season.

An auspicious debut as a pro

Ruth's impact was immediate. He left St. Mary's on a Friday and on Monday joined other Baltimore players for the trip to Fayetteville, North Carolina, for spring training. Rain canceled practice most of the first week, but Saturday, March 7, 1914, was beautiful, and the Orioles played an intrasquad game, their first game of the spring. It was an inconsequential affair that would be of no interest except for one thing. In the second inning Babe Ruth hit his first home run as a professional ballplayer. That was impressive enough, but it wasn't the homer that mattered as much as the way he hit it. Baltimore newspapers the next day said, "Ruth Makes Mighty Clout" and "Homer By Ruth Feature Of Game." One account read: "The next batter made a hit that will live in the memory of all who saw it. That clouter was George Ruth, the southpaw from St. Mary's school. The ball carried so far to right field that he walked around the bases."

It was barely a week since he had left St. Mary's, his first game as a professional, and he had excited everyone. Later in spring training he took the mound against the Philadelphia Athletics, then the most powerful team in baseball, winner of three of the previous four World Series. Ruth stopped the Athletics, pitched a complete game and beat them, 6-2. By the time the Orioles returned to Baltimore to start the season, Ruth was famous, and he was famous the rest of his life.

He picked up his indelible nickname in Fayetteville that spring. While he showed maturity as a player, Ruth was still just a kid off the field. Most of his teammates were considerably older, some of them career professionals not quite good enough for the big leagues, some ex-major leaguers on their way back down the ladder. The older players were amused by Ruth, but they had nothing in common with him. Ruth's friends were the kids in Fayetteville. He hung around with them after practice. He rode their bicycles, and when he received his first paycheck he bought himself a bike. To the older

THE CAYMAN ISLANDS OURS & YOURS

You may already know of Grand Cayman's treasures.

White coral sands, protected natural beauty, colourful history and wonderful shopping.

Now we invite you to share the gifts of our sister islands.

Discover Cayman Brac. Where divers delight, birdwatchers marvel and hikers climb skyward for a view from our bluff.

And Little Cayman. Where fishermen fish from our teeming waters and beachgoers find respite along our peaceful shores.

Fly here in comfort on a Cayman Airways jet. For reservations, call 1-800-G-CAYMAN. For more information, call 1-800-346-3313.

Wherever you go in The Cayman Islands, you'll feel safe and relaxed, as though you belong. And you do.

"Those who know us, love us."

As a pitcher for the Red Sox in 1919 (left), Ruth still had his youthful figure, but by 1921 he was losing it fast (opposite).

players he was little more than a child, and they began calling him Jack Dunn's babe. "Babe" was a common nickname then for a small child or an only child or a younger sibling. In a very short time he was "Babe" Ruth to everybody.

He was a boy, filled with a youthful exuberance and playfulness that never left him. Shortly before the International League season began, the Orioles played an exhibition game in Baltimore against John McGraw's renowned New York Giants. The Orioles' first baseman was slightly injured late in the game, and Dunn sent the tall, left-handed Ruth in to play first base in the ninth inning. The last out of Baltimore's 2-1 victory came on a ball thrown to Ruth at first base. Overjoyed by the realization that his team had defeated McGraw and his Giants, Ruth whooped with pleasure and threw the ball high across the field into the left-field seats. Things like that just weren't done in those days. Baseballs were expensive, and foul balls hit into the stands were routinely tossed back onto the field. Ruth's triumphant gesture was, therefore, an extravagant one—and the Baltimore fans loved it.

Ruth always reacted to the fans, played to them, was aware of them. When he was a New York Yankee, playing in the 1928 World Series in St. Louis against the Cardinals, Ruth was booed cheerfully by the St. Louis fans when he took his place in the outfield before the final game. (You *can* boo cheerfully.) Ruth grinned at the crowd, pointed to the right-field seats and held up the number of fingers for the next inning. The gesture said clearly, "I'm going to hit one out of here." He did hit one out, and then another and another, the second time he had hit three home runs in one World Series game.

With the Yankees leading in the last half of the ninth inning of that same game, the Cardinals tried to rally but failed. The final Cardinal batter hit a foul fly down the left-field line, where extra seats had been placed on the field to accommodate the overflow crowd. Ruth, playing left field, ran in along the temporary fence in front of the seats, and with St. Louis fans whacking at him with programs to prevent him from making the catch, he reached above their heads and deftly plucked the ball out of the air. It was the last out of the game, the last out of the Series, and as he ran in toward the dugout, Ruth held his gloved hand with the ball in it high in the air like a trophy, waving it as he ran. It was enemy territory and an enemy crowd, but the fans loved it. And they remembered it.

In 1934, his last season as a Yankee, Babe's physique had gone to pot, but he remained agile enough (above) to slide home.

In 1914, with Baltimore, he had a tremendous rookie season. He won 14 games in less than three months for the Orioles before Dunn sold him to the Boston Red Sox in July. He won once and lost once for the Red Sox, then sat on the bench for a month and in August was sent down to the minors, to Providence in the International League, for added seasoning. There he won nine more games in little more than a month and at the end of September went back up to the Red Sox, with whom he won one game before the season ended. He had also won three exhibition games. All told, pitching for Baltimore, Providence and Boston, he won 28 games and lost 9, a scintillating performance, particularly since he did not appear in the lineup at all for nearly a month in midseason.

He quickly became the best left-handed pitcher in the American League. He won 18 games in 1915, his first full season, and 23 in 1916. In 1917 he won 24. In the 1916 World Series against the Brooklyn Dodgers, he pitched and won a 14-inning, 2-1 game, which is still the longest World Series game ever played. Ruth gave up a run in the first inning and pitched shutout ball the rest of the way. In his next World Series, against the Chicago Cubs in 1918, he pitched a shutout and won a second game in which he extended his streak of scoreless World Series innings to 29, a major league record that lasted for more than 40 years.

Ruth was a great pitcher. He defeated the renowned Walter Johnson of the Washington Senators five times in a row one season, one of those a 1-0 victory in 13 innings. He also hit nine major league home runs in three years, a lot for a pitcher. Ruth liked the feel of that, and in 1918 he said he wanted to give up pitching and play every day as an outfielder. His Red Sox manager, a stubborn conservative named Ed Barrow, didn't think much of the idea. He wanted Ruth to stick to pitching, which Barrow felt was much more important than hitting home runs. Ruth and Barrow squabbled and argued and at one point almost came to blows. Babe jumped the club and said he would play semipro ball for a Baltimore shipyard team. The Red Sox were fighting for the pennant and they desperately needed Ruth, and he and Barrow finally reached a compromise. Barrow would let Ruth play the outfield and bat fourth, but when it was his turn to pitch, Ruth would take the mound, still batting fourth. He did that—pitching and hitting, both—throughout the last five weeks of the 1918 season. The Red Sox took the pennant and the World Series (Bos-

ton's last World Series championship). Ruth won 13 games and shared the league lead in home runs with 11.

In 1919 he continued to pitch a little for the Red Sox, but now he was primarily a hitter, and he broke all existing records for home runs in one season. He hit 29, which doesn't sound like much today, but the old American League record had been only 16; the three men who finished in a tie for second behind Ruth, Tilly Walker and Hall of Famers Frank (Home Run) Baker and George Sisler, hit only 10.

Ruth was head and shoulders over everyone, a behemoth, outsize, out of sight. And he did what he did with panache, with brio, with élan, all those words that mean he was fun to watch. In September, after breaking the American League mark, he needed one more homer to tie an ancient major league record for home runs, set in 1884. Late that month, to boost attendance in Fenway Park, the Red Sox declared a Babe Ruth Day and said Ruth himself would pitch against Lefty Williams of the Chicago White Sox, a superb pitcher who won 23 games that year (and in the World Series, disgraced himself by being one of the eight "Black Sox" accused of throwing the Series to the Cincinnati Reds).

"The most unbelievable poke I ever saw"

The promotion worked, and the ballpark was packed. The Babe was a little disappointing on the mound, lasting only into the sixth inning before giving way to a relief pitcher, but he did not leave the game. Instead he switched to the outfield, and in the bottom of the ninth he hit a huge home run off Williams that won the game, tied the all-time home run record (which he broke a few days later), absolutely delighted the Boston crowd and even awed his fellow players. Buck Weaver, the Chicago third baseman (and another of the Black Sox), came by the Red Sox dugout after the game and said, "That was the most unbelievable poke I ever saw."

Ruth was phenomenal, a national celebrity. Three and a half months later, with no warning, the Red Sox sold him to the Yankees. It was the most stunning deal in the history of baseball.

Boston wept, but in New York Ruth took off like a rocket. In 1920 he left his 29 homers far behind by hitting 54, and in 1921 he topped that with 59. In just three seasons Ruth had hit 142 home runs, more than any batter before him had hit in an entire career. He batted .376 in 1920, .378 in 1921. In 1921 he drove in 171 runs and scored 177; no one else was within 30 runs of those figures. He was colossal.

Even in adversity he retained his dash, his flair for the dramatic. In the 1921 World Series, which the Yankees lost to the Giants, Ruth's power was stifled by John McGraw's pitchers, who seldom threw Babe a ball in the strike zone. In one game, after hitting a run-scoring single in the first inning, he was walked three times in a row. After the third base on balls, almost as though he could not stand the inaction anymore, he suddenly bolted for second and stole the base standing up. That shook up the Giants and the crowd. Then he took off for third and stole that base too.

Ruth, whose heart was bigger than his belly, played Santa at a party for young victims of polio.

Babe mugged with a cookie in his teeth to promote Girl Scout Week fundraising drive.

That's one of the reasons I so dislike the movie John Goodman made in 1993 about Babe Ruth. It depicted the Babe as a fat little boy who grew up to be a grossly fat man. Ruth wasn't fat when he was young, and even after he developed his famous paunch, he could still move with speed and grace. Those who saw Ken Burns' film *Baseball* on PBS last fall (SMITHSONIAN, July 1994) may remember the shot of the bulky Ruth racing around second base and sliding vigorously into third with a triple. He was a beautifully coordinated athlete, and that he could play so well even with a beer belly is evidence of that. He stole 123 bases in his career. (Lou Gehrig stole 102, Joe DiMaggio 30, Ted Williams 24.) In 1993 speedy

The exalted star was not above engaging in a little puffery for a cereal company.

Arriving in Los Angeles to make a movie, the dapper hero was regaled with a Hollywood-style welcome at the station.

During a 1934 barnstorming tour in Japan, Beibu Rusu (a.k.a. Babe Ruth) exchanged hats with a youngster sitting next to him.

Babe enjoyed a gag in drag. To ham it up for photographers, he would do almost anything.

Lenny Dykstra of the Philadelphia Phillies was acclaimed for scoring 143 runs. Old potbellied Ruth, well into his 30s, scampered around the bases fast enough to score 158 runs in 1927, 163 in 1928, 150 in 1930.

Earlier in his career he kept "doing things," and he repeatedly got into trouble—for bad-mouthing umpires, for trying to punch one, for climbing into the grandstand after an abusive fan, for defying Baseball Commissioner Kenesaw Mountain Landis. In 1922 he was suspended five different times for behavior that baseball objected to. In 1925, with his first marriage collapsing and newspapermen hounding him about his affair with the woman who became his second wife, he drank too much, slept too little, got terribly sick, missed a good part of the season, played badly when he returned, had an angry quarrel with his manager, was suspended again and was slapped with a $5,000 fine, an enormous sum at that time. He was past 30, looked terrible and was overweight; many baseball people thought he was all through, that he was a rocket that had burned out too soon.

But Ruth straightened himself out, and from 1926 through 1931, as he aged from 32 to 37, he put on the best sustained streak of power-hitting that baseball has ever seen or—I'd bet the farm on this—will ever see again. In 1927 he hit the famous 60 home runs that broke his own record, but almost as impressive is the fact that during those six seasons he *averaged* 50 homers a year. He led the American League in home runs 12 times in 14 seasons.

He began slowing down in 1932, although he still hit 41 home runs. In September, on a road trip, he suffered what appeared to be an attack of appendicitis and went back to New York. There was no operation, but Ruth played little the rest of the season, and it was thought that he might not make the World Series that fall against the Chicago Cubs. But Ruth was in the starting lineup when the Series began, and he played every game. He batted .333, drove in six runs and in the third game hit

Twisted legs, splayed feet, defined the end of Ruth's swing. "I swing big, with everything I've got," he said.

two homers, one of them the most famous home run he ever hit. That was the near-legendary Called Shot, in which he defied the hooting Chicago crowd and the bench-jockeying Cubs, indicated that he was going to belt one out of the ballpark and proceeded to hit the longest home run that had ever been hit in Wrigley Field up to that time. I don't believe he pointed to a spot in the center-field stands, as the legend has it, but there is no doubt that he indicated to the Cubs that he was going to hit one and did. What a moment, as Ruth, trotting around the bases, laughing at the Cubs, clearly understood. "You lucky bum," he was honest enough to say to himself. "You lucky, lucky bum."

He had a couple of more, fading years with the Yankees, and then in 1935 one last sad hurrah with the old Boston Braves. Typically, he rose to the occasion on opening day, hitting a home run as Boston won. But after that things went sour. He didn't feel well. He was not hitting. He wanted to retire. The Braves' persuasive owner asked him to make one last attendance-boosting road trip with the club, and Ruth agreed. His muscles ached, his eyes hurt and his batting average fell to a miserable .155, but he stayed with the team as it traveled to St. Louis and Chicago and Pittsburgh. His wife tried to get him to quit, but Ruth said he had to finish the road trip. She asked why. "Because I promised the son of a bitch," he explained.

Toward the end of the trip, in a game in Pittsburgh, he roused himself and hit three last home runs, the final one a monumental drive over the roof in right field, the first time a ball had ever been hit over the roof in Forbes Field. Guy Bush, the pitcher he hit it off, said later, "I never saw a ball hit so hard before or since. He was fat and old, but he still had that great swing. Even when he missed you could hear the bat go *swish*. I can't remember anything about the first home run he hit off me that day. . . . But I can't forget that last one. It's probably still going."

It was Ruth's last home run and his last base hit. A few days later in Philadelphia, the last stop on the road trip, he played his final game, hurt himself doing it and then left the field. When the Braves returned home to Boston, he quit for good.

For all his carefree ways, Ruth almost always retained a sense of obligation to his role as hero. At times he acted like a clod or an oaf, but he knew how to rise to an occasion, off the field as well as on. In 1947, when he was very ill with cancer but still traveling around the country, he was staying in a suite in a Cincinnati hotel when Waite Hoyt, an old New York Yankees teammate, came to visit him. Hoyt brought along his wife, whom he had married not long before. They visited for only a short time, Hoyt said, because Ruth was obviously not feeling well. When the Hoyts started to leave, Ruth said, "Wait a minute," and got painfully to his feet. He limped into the kitchen of the suite and took from the refrigerator a small vase with an orchid in it. He gave it to Mrs. Hoyt. "Here," he said, referring to her recent wedding, "I never gave you anything."

He had that same odd sense of duty, of responsibility, when he was close to death in the summer of 1948. He left his hospital room to fly to Baltimore to appear at a charity game (which, ironically, was rained out), and he left it again to attend the premiere of the Babe Ruth movie starring William Bendix (which was even worse than the John Goodman version). Once the film began, Ruth grew very uncomfortable, and he left before it was over. Back in the hospital he seemed content, and he never left it again. "All my obligations are over," he said. "I'm going to rest now."

He died three weeks later.

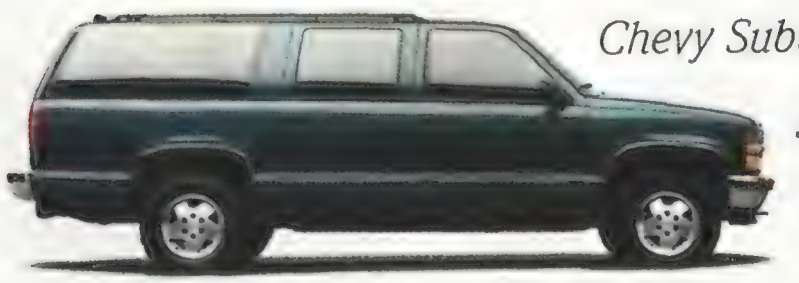
He was the best baseball player who ever lived. He was better than Ty Cobb, better than Joe DiMaggio, better than Ted Williams, better than Willie Mays, better than Henry Aaron, better than Bobby Bonds. He was by far the most flamboyant. There's never been anyone else like him.

And that, I suppose, is why people talk about Babe Ruth all the time.

Rowdy star looked pensive during a 1927 photo session. The real Babe was far more complex than the legend.

We've Taken This Concept

Imagine taking your favorite room wherever you go. Introducing the all-new interior in the Chevy Suburban LT. With the comfort of an easy chair and a style befitting the most discriminating driver, this new Suburban surrounds you and seven friends in luxury.



For a free product brochure call 1-800-950-2438. *Dependability based on longevity: 1984-1993 full-line truck company registrations. Excludes other GM divisions.
The Chevrolet Emblem and Suburban are registered trademarks and Chevy is a trademark of the GM Corp. © 1994 GM Corp. All Rights Reserved. Buckle up, America!

And Put It On Wheels.

*Leather seats await you. Dual climate controls are a fingertip away. You'll find a place for practically every drink, a convenient work space, 4-wheel ABS and driver's-side air bag. With features like these, the 1995 Chevy Suburban LT is here to stay. Chevy Trucks are the most dependable, longest-lasting trucks on the road.**

Chevy Suburban
LIKE A ROCK

By David M. Schwartz

Ready, set, read—20 minutes each day is all you'll need

As the author of the best-selling Read-Aloud Handbook, *Jim Trelease believes making time for books creates a lifetime love of reading*

Jim Trelease is the first to admit that he's superfluous. "Imagine! I give 150 programs a year throughout North America. People pay me *full-time* to come into their communities and tell them that they should read aloud to their children!" He shakes his head with mock incredulity. Mostly young parents and teachers, the members of his audience giggle nervously. They have resisted the temptation to stay home on this Friday evening despite rainy weather and the draw of the Olympic women's figure skating finals. And this is what they get in appreciation? "That's like someone being paid full-time to go around the country and tell people, When you put your child to bed at night, the pillow—it goes *under* his head, not *over* his head!"

Your grandparents may have practiced it, children's librarians have been doing it all along, common sense makes it fairly plain, and thousands of academic studies have proven its worth, but reading to children on a daily basis seems as foreign to most parents and teachers of the 1990s as, well, sleeping beneath the pillow. To Trelease, it's the best-kept secret in education today.

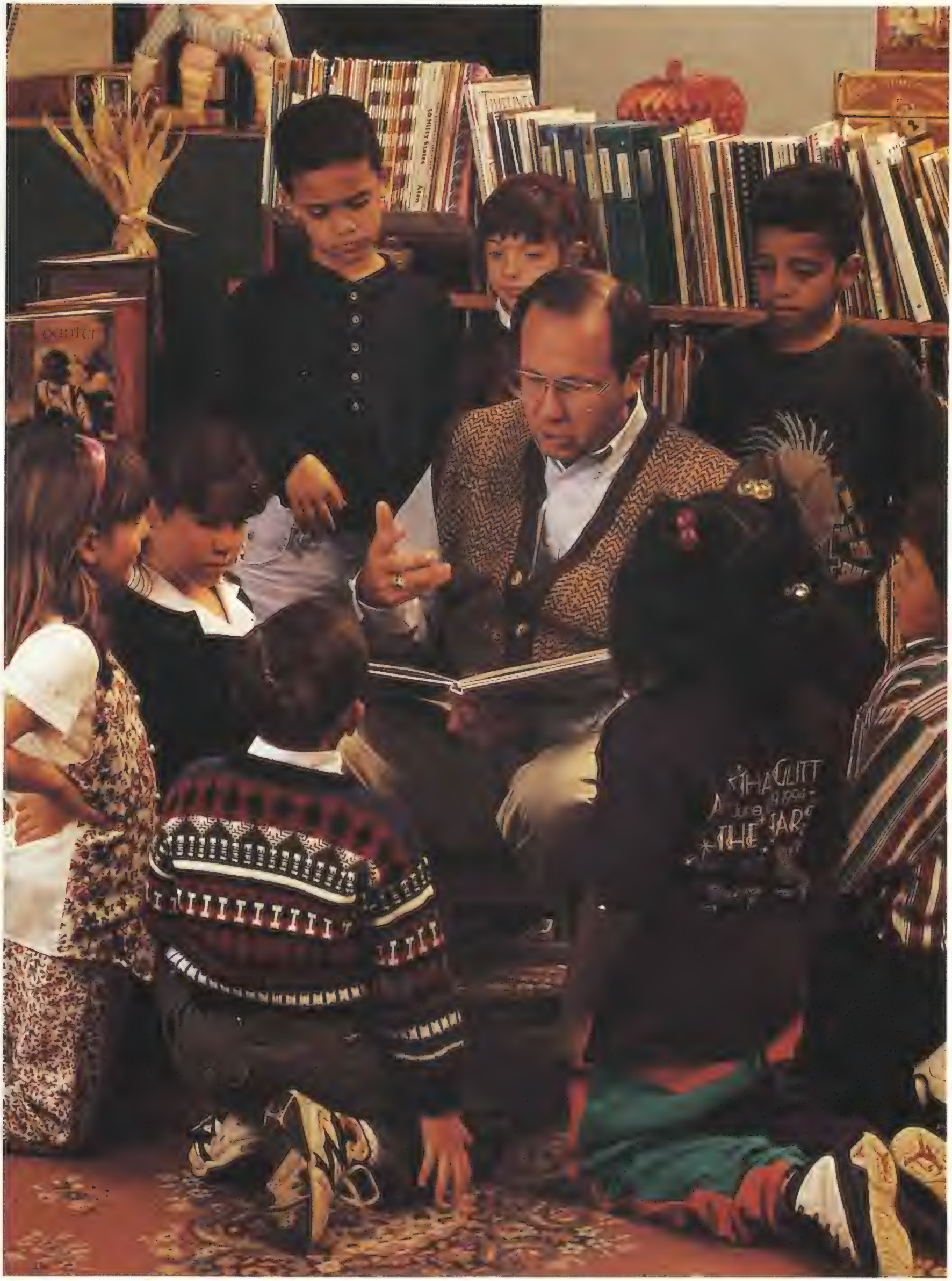
"Most people don't believe me when I tell them that reading aloud is the single most important factor in reading success," Trelease says, settling himself on a stool he has positioned just feet from the first row of the elementary school auditorium in St. Helena, California, a town of 5,000 in the heart of the Napa Valley. "They don't believe me for three reasons: One, it's simple. Two, it's free. And three, the child enjoys it. Believe me, if this stuff required a master's degree and a $149 machine, we'd have it in half the homes of America. And if kids hated it, we'd have it in every classroom! But if it's simple and free, how much good can the thing be?"

Of course Trelease is eager to explain how much good the thing can be. He has devoted the past 15 years to just that. To many parents and educators who don't recognize his name at first, a reference to "the read-aloud guy" can often jog a memory. That has been his identity since 1979 when he self-published a 30-page booklet called *The Read-Aloud Handbook*, half of it "whys" and "hows," the other half an annotated bibliography of recommended titles. Producing it cost $600—the family's summer vacation money. He gave it to friends and neighbors in Springfield, Massachusetts, and sold it to a few bookstores. Then Penguin picked up his title and published it. But *The Read-Aloud Handbook* probably would have retired after a brief and peaceful life had not a copy found its way into the hands of an expectant mother who sent it to a popular syndicated newspaper columnist. Abigail Van Buren loved it. After she sang its praises in print, *The Read-Aloud Handbook* suddenly appeared on the *New York Times* best-seller list, where it remained for 17 weeks. "We call her 'Dear, dear Abby' in our household," Trelease jokes.

More than a million copies later, *The Read-Aloud Handbook* will be issued in a fourth edition in September, with 300-plus pages that include the "Treasury of Read-Alouds" listing 1,500 books. It now has companions in two anthologies Trelease has edited, *Hey! Listen to This* (for young children) and *Read All About It!* (for preteens and teens). Trelease is booked 18 months in advance as a speaker, and for those unable to see him in person he offers audio and video tapes. All to persuade people of something they may not want to hear: no matter how busy they are, the most important thing they can do for a child, next to hugging him, is to read to him. And, Trelease adds, after that comes severely curtailing time spent in front of the TV.

Trelease backs up his pitch with anecdotes and studies. He lifts a hefty document that he calls one of the most seminal papers in the history of education research. It is *Becoming a Nation of Readers*, the report of a commission funded in 1983 by the U.S. Department of Education to review 20 years of reading research and provide recommendations for improving the teaching and learning of reading. Chaired by Richard Anderson, director of the Center for the Study of Reading at the University of Illinois, the Commission on Reading published its results two years later. The first conclusion: "The single most important activity for building the

Sharing a favorite title with an attentive audience, Trelease holds story hour for group of second-graders.



Photographs by Richard Howard

knowledge required for eventual success in reading is reading aloud to children." In the decade since the publication of *Becoming a Nation of Readers*, Richard Anderson believes, the evidence has continued to mount.

Study after study from reading researchers confirms a litany of benefits: reading to children builds vocabulary and background knowledge and establishes the reading-writing connection; it exposes children to a wealth of experiences outside their own; it stimulates imaginations, stretches attention spans, nourishes emotional development, encourages compassion, reshapes negative attitudes to positive ones; and it introduces textures and nuances of the English language rarely heard on TV sitcoms. But for all that, it does even more. Reading aloud is, in essence, an advertisement for learning to read, a process that can otherwise be tedious, frustrating or even threatening.

Trelease laments that elementary school students are too often conditioned to associate reading with pain in the form of a thousand worksheets a year, on average, even though no study has ever shown a correlation between reading ability and how many worksheets a child completes. "We have concentrated so hard on teaching children *how* to read, that we have forgotten to teach them to *want* to read. As a result, we have created a nation of *school*time readers, not *life*time readers."

It's hard not to gulp when he says that 90 percent of fifth-graders devote less than 1 percent of their free time to reading, although they spend 33 percent of their free time watching television. By the time they become high school seniors, he predicts, more than 95 percent of them will be unable to comprehend the *New York Times*, while 63 percent will not even read at the level of the tabloid papers. And if their parents' habits can predict their own futures, Trelease points out that 60 percent of U.S. homes did not buy a single book in 1991, and it's no better with newspaper consumption: the United States places 19th in per capita newspaper circulation among the top 20 industrialized nations.

Reading for the love of it

For all his command of studies and statistics, the world's leading popularizer of reading research found his calling not because it spoke to his intellect, but because it nurtured his emotions. When their two children were young, Trelease and his wife Susan fed them as many books as meals, relishing the rich bonds that reading cultivated within the family. "I didn't know a thing about vocabulary development and attention span," he confesses. "I read to my kids because my father had read to me. I just wanted Elizabeth and Jamie to have the good feelings I had had."

He grew up in the 1940s with two brothers in a two-bedroom garden apartment in Union, New Jersey. The

As a school day ends, shop teacher Michael Whitman regales his homeroom class with a Nancy Drew escapade.

Here at Bigelow, a Newton, Massachusetts, middle school, the principal, a Trelease fan, instituted read-alouds.

Ken Sakamoto

Inspired by Trelease, Lynne Waihee, wife of Hawaii's governor, heads up the statewide "Read to Me" campaign.

Trelease admirer Arthur Tannenbaum has brought hundreds of volunteer readers to New York City schools.

Depression was still a fresh memory. It had kept his parents from attending college. "We didn't own a car until I was in fifth grade or a house until I was in seventh," Trelease recalls. "But for as long as I can remember, we subscribed to several magazines and two daily newspapers, and we had an encyclopedia that I pored over from front to back before I could read a word." He remembers scarcely a day of childhood when his father didn't read aloud to him. The daily routine usually included *Li'l Abner,* along with the "Bedtime Stories" column, featuring Uncle Wiggly, from the *Newark Evening News.* Then father and son studied the cover of the *Saturday Evening Post*—an image Norman Rockwell might well have painted—before Dad turned to the serialization inside and his son settled back to listen.

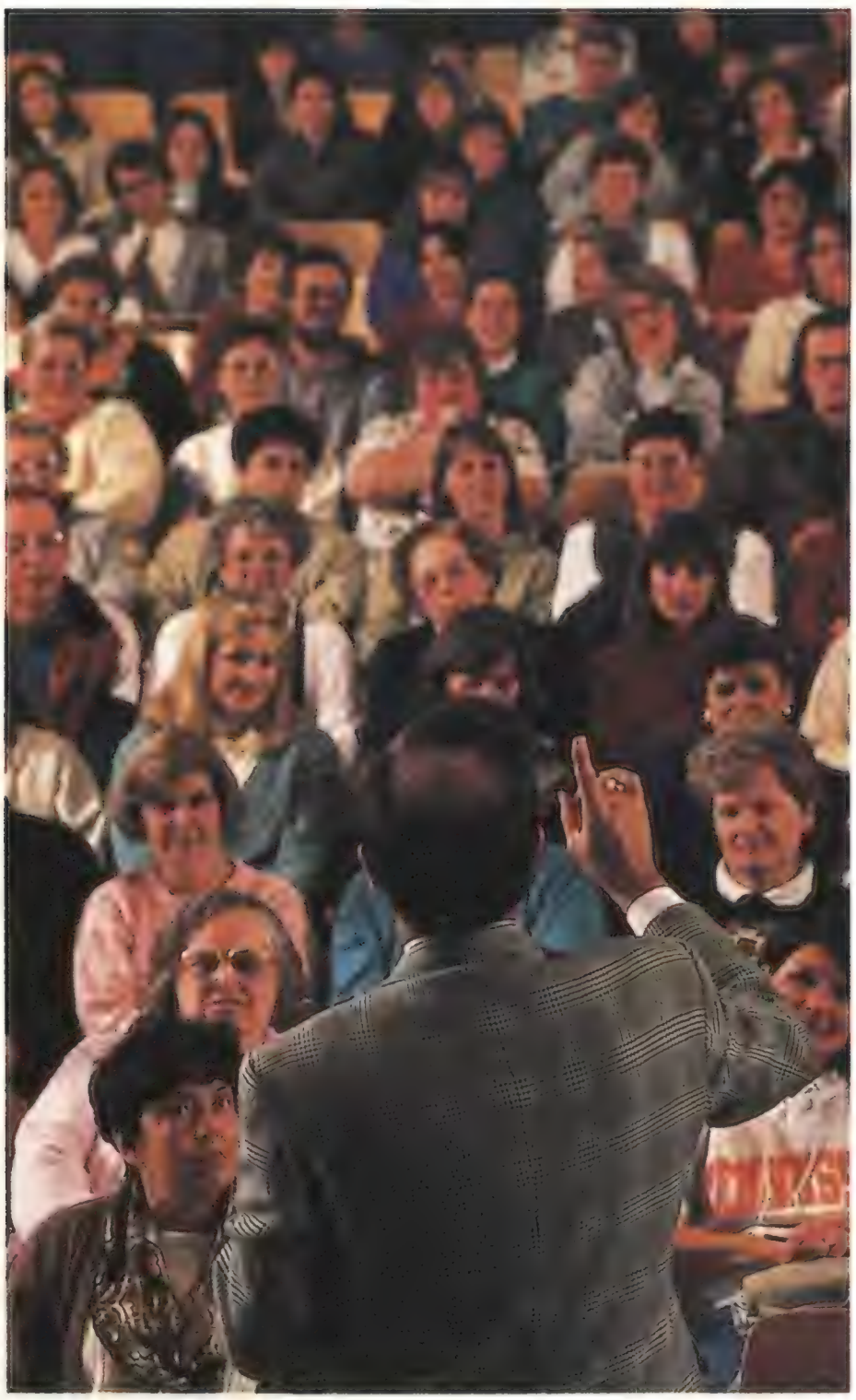
Into the classroom: a new career

After graduating from the University of Massachusetts, where he was a sportswriter for the college newspaper and a play-by-play sportscaster for the radio station, Trelease went to work as a reporter and cartoonist in nearby Springfield. He probably would have lived out his working life as a journalist had it not been for a request he had trouble turning down. In 1967 a fourth-grade teacher refused to take "no" for an answer when she invited him to her classroom to talk about his career. He had so much fun that he was soon making 40 unpaid school visits a year. On his way out the door of one classroom, he spotted *The Bears' House* by Marilyn Sachs, a novel he had just read to his daughter.

"I put down my briefcase and drawings, and I went back and said, 'Who's reading this?' Three girls sheepishly raised their hands. So I asked them, 'Don't you just *love* it?' For the next 45 minutes I just sat on the desk as we talked about *The Bears' House* and other books." In a thank-you note, the teacher told him that as soon as he had finally left, every child in the class was ready to break down the doors to get to the library.

"That bothered me," Trelease says. "It bothered me that they weren't ready to break down the doors to get to the library every day. From then on, I always saved time to ask the class what they had read lately. And as the years went on, I began to see that the kids were reading less and less, *except* in the classes where the teachers read aloud to the class. I began to wonder if there was a connection between how much you read to children and how much they wanted to read to themselves."

When he pursued his hunch in the professional reading journals, he found a wealth of research to support it. He was off and running—with reading. He tried pressing neighbors, relatives and colleagues at the paper to read to their children, but hardly anyone showed interest. "They all thought that reading aloud was something you did when the kid wouldn't go to sleep, and televi-



In 150 appearances a year, Trelease offers this message: a child needs, and deserves, someone to read to him.

sion worked just as well. Maybe that was because they were never read to as children."

In St. Helena, Trelease invokes a skeptical father he once met in Alabama. "Excuse me, sir. Now this I just don't understand." Trelease impersonates the man and his buzzy, Ross Perot twang. "You say I should read to my son. But my son is in the fourth grade, and I'm mighty proud to say he's in the top reading group! Now, why should you read to a child who already knows how to read? Why doesn't *he* just read *his* books, and *I'll* read *my* books, and we'll both be happy?"

To answer the question, Trelease rotates his body 90 degrees and returns to his undoctored New Jersey accent. "You say your son is reading at a fourth-grade level? Wonderful! But tell me: What's his *listening* level?"

Listening level? Now that's as new to the St. Helenans as it was to the man in Alabama. "You see," Trelease explains, "listening comprehension comes before reading comprehension, and it's usually two to three years ahead. A child reading on a fourth-grade level may be able to listen to books written on a sixth-grade level. It is the child's listening vocabulary that feeds his reading vocabulary." To illustrate, Trelease scoops up a book from a nearby table and reads the opening paragraph from Roald Dahl's *The Enormous Crocodile.*

"'In the biggest brownest muddiest river in Africa, two crocodiles lay with their heads just above the water. One of the crocodiles was enormous. The other was not so big.' Now let's suppose a child does not know the word 'enormous.' Which is going to be more effective? Hearing the word in the context of a story, or seeing it isolated from meaning on a flash card? And remember, if a child has never heard the word 'enormous,' he'll never say the word 'enormous.' And if he's never heard it or said it, it's going to be pretty difficult when the time comes to read it."

Parents ask him when to start reading aloud even more often than they ask when to stop. Characteristically, he answers with a question. "When did you start talking to your child? Did you wait until she was 18 months old? Of course not. You started talking to her on the day she was born. If a child is old enough to talk to, the child is old enough to read to."

Upon the birth of their daughter, Marcia and Mark Thomas received *The Read-Aloud Handbook* as a gift. Previously, they hadn't considered reading to a baby, but they had a special reason for wanting to promote Jennifer's intellectual development: she was born with Down's syndrome. "We figured it couldn't hurt," says Marcia Thomas, "so we put her on a diet of ten books a day." As an infant, Jennifer required surgery and spent seven weeks in the hospital. For the times when her parents couldn't be present, they left recorded books and a tape recorder for the nurses to play. By age 2, Jennifer brought books to her parents and regularly sat still for an hour at

Roadmaster Wagon. When it comes to luxury, Buick goes to great lengths.

Roadmaster is everything you expect from Buick. In a station wagon. Standard dual air bags and ABS. V8 power. Loads of luxury. And room for eight, plus cargo. Roadmaster Estate Wagon. Proof that Buick's commitment to quality goes a very long way. Call 1-800-4A-BUICK.

BUICK®

The New Symbol For Quality In America.

©1994 GM Corp. All rights reserved.
Roadmaster is a registered trademark, and Estate Wagon a trademark, of GM Corp. Buckle up, America!

Marcia and Mark Thomas began reading to daughter Jennifer when she was only weeks old. She's now among the top readers in her fourth-grade class.

a time as they were being read. By age 5, she was reading on her own and carting books around by the bagful.

Now a 10-year-old in a regular fourth-grade class in Concord, Massachusetts, Jennifer Thomas (above) is a voracious reader with a vocabulary her teacher describes as "phenomenal." She is sometimes the only one in the class to comprehend a difficult passage. "We believe it has all come from reading to her as a little baby, and then as a young child," says her mother. "We tell everyone who has a baby that they can't read too early or too much."

As soon as Tracy and Geoff Worley heard Jim Trelease speak at a school near their home in Tustin, California, they changed their family's routine. "He left a huge impact on us," recalls Tracy. "We rethought everything that was important in our lives. Nothing got in the way of my husband's reading to our daughter and son." Nothing but tragedy. Two and a half years later, the children lost their father to cancer. "Memories of their father reading to them, and the nurturing closeness that it built, will stay with them for the rest of their lives. They still talk about the books Daddy read, and how he read them."

Lest there be any doubt about the stakes involved, Trelease proffers a bold claim. Reading, he tells his audience, is the single most important social factor in American life today. "The more you read, the more you know. The more you know, the smarter you grow. The smarter you grow, the longer you stay in school. The longer you stay in school, the more money you earn. The more you earn, the better your children will do in school, and the longer you will live. So if you hook a child with reading, you influence not only his future health and financial circumstances but also those of the next generation! On the other hand, the less you read, the less you know. The less you know, the sooner you drop out of school. The sooner you drop out, the more likely you are to be poor, *and* the greater your chances of going to jail. Eighty-two percent of prison inmates are school dropouts, and 60 percent are illiterate."

By now, Trelease's audience is at rapt attention. The televised Olympics are very far away. He minces no words, subscribing instead to the philosophy that a little bit of guilt can go a long way.

"I know what you're thinking. There are only 24 hours in a day. It's true. But who ever told you that parenting was going to be a time-saving activity?"

Trelease is walking about now, gesturing in broad strokes to nobody in particular. "You, sir, had the time to watch your favorite ball team win or lose yesterday. You, ma'am, had the time to go to the mall yesterday, maybe two malls. You had the time to run to the corner store to play that lottery ticket, get cigarettes, rent a video. You had the time to talk to your sister on the phone for 35 minutes, probably about nothing. You had the time to chase dust balls under the couch, time to do the dishes. But you didn't have time to read to your child? I can tell you this unequivocally: 20 years from now there'll be twice as many shopping malls. Your favorite shows will be on 120 different cable channels. The

David M. Schwartz is the author of a number of titles for children, including How Much Is a Million?, If You Made a Million *and* Supergrandpa.

WalkFit burns up to 79% more calories than ordinary treadmills.

With up to 79% higher calorie burn, NordicTrack's WalkFit® exerciser leaves ordinary treadmills behind.

It's simple. Ordinary treadmills target only your lower-body muscles. But research at a major university shows that the combined upper- and lower-body workout you get with WalkFit can burn an average of 53% more calories than ordinary treadmills.

The best way to take the weight off.

You can start to see results in as little as three, 20-minute workouts a week. But that's only the beginning. Once you get into the WalkFit exercise routine, you can burn an average of 850 calories per hour and up to 1,000.

What's more, exercise like you get with WalkFit also helps raise your metabolic rate, so even when you're not exercising, your body is burning more calories. As a result, it will help take the weight off by combining your regular workout with a sensible diet.

The best way to improve your cardiovascular fitness.

Our flywheel and independent resistance settings let you set the pace. You improve your cardiovascular fitness over 50% more efficiently than with ordinary treadmills because you power the total-body exerciser, not a motor. You can start, speed up, slow down or stop whenever you want to keep your routine interesting and enjoyable.

The best way to look and feel great.

And while you're burning calories, you'll be toning your whole body, reducing stress, increasing your energy and strengthening your cardiovascular system. Rain or shine, in the comfort of your home, WalkFit is simply the best way for you to get a total-body workout.

And wait till you see the results! You'll have a thinner waist, flatter stomach — and a well-toned and firmly shaped body. Plus you'll feel as good as you look.

Don't just walk–WalkFit!

30-DAY IN-HOME TRIAL

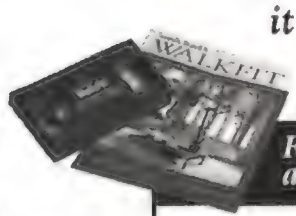
Best of all, it's from **NordicTrack** A CML Company

Call today for your FREE Video and Brochure!

1-800-441-7512

Ext. F6QB5

NordicTrack's WALKFIT®



FREE Video and Brochure! Call **1-800-441-7512** Ext. F6QB5

or write: NordicTrack, Dept. F6QB5, 104 Peavey Road, Chaska, MN 55318-2355

❑ **Please send me a FREE brochure**

❑ **Also a FREE VHS videotape**

Name _____

Street _____

City _____ State _____ Zip _____

Phone (_____) _____

©1995 NordicTrack, Inc., A CML Company • All rights reserved.

Trelease tries out a story on the most recent addition to his audience: newborn grandson Connor Reynolds.

dust balls will still be under the couch, and the dishes will still be in the sink. But 20 years from now, your little boy or girl will no longer be your *little* boy or girl."

Trelease knows that the pill he's prescribing as a cure for reading ills has the bitter taste of responsibility, and therefore he has no illusions that the read-aloud diet will last much longer than any other. He knows that people like the Worleys and the Thomases are rare. But he also knows that occasionally the torch is passed to individuals who multiply his efforts.

Mary Kay Bond, a new mother in Charleston, West Virginia, may have been the perfect candidate for Trelease's message when she first heard about him in the early 1980s. She already had the curious habit of reading *Newsweek* to her 3-month-old, despite the mirth it provoked in her family. A few years later, Bond and nine other mothers from her son's preschool rented Trelease's film (now a video) for viewings throughout the community. "We decided to develop a program that would last beyond the film," she says, as enthusiastic now as she was then. They organized volunteers to read in schools and to speak to expectant parents at prenatal classes. Bond and her friends found grant money for a book-distribution program so that every child born in Kanawha County would get at least one book as a "birth" gift. Optimistically, they named the program "Read Aloud West Virginia." Read Aloud West Virginia had spread to eight counties by 1992, when it received a $290,000 grant from the Claude Worthington Benedum Foundation to expand throughout the state.

When Lynne Waihee first heard Jim Trelease in her own state of Hawaii, she was struck by the way he articulated the urgency of parents taking responsibility for their children's literacy. Waihee was inspired, and as the wife of Hawaii's governor, she was in a good position to mix inspiration with perspiration. She convinced the Rotary Clubs, libraries, schools and several corporations to develop the "Read To Me" campaign. Its goal is to see that every day, every child in Hawaii is read to for at least ten minutes. "For years, our literacy program had targeted the adult population," Waihee says, "but we realized that if we could focus attention on raising a literate population instead of fixing up an illiterate one, our chance of success would be much greater."

In keeping with Trelease's message that reading aloud is a commercial for reading itself, the Read To Me campaign promotes its message through a series of upbeat advertisements, including radio and TV spots. Every elementary school and library in Hawaii has received a bibliography of recommended children's books, a brochure called "Lynne Waihee's Reading Tips" and a ten-minute videotape on the "why's" and "how's" of reading aloud. Read To Me also enlists pediatricians to promote daily reading as part of a healthy lifestyle. Hawaii's enormously popular program has been adopted in Colorado and Wyoming. On the national level, the Association of Booksellers for Children and several other trade organizations have recently launched a similar campaign called "The Most Important 20 Minutes of Your Day."

In New York City, Arthur Tannenbaum was nearing retirement as an executive in 1988 when he came across Jim Trelease's book. Although he had no school-age children, he knew that there were plenty in the city who could benefit from being read to. "Children in New York were going through school without learning how to read, and in many cases nobody at home was reading to them. I said, 'Hey, I know how to do that! There are plenty of people working for companies in New York who know how to do that!'" With four colleagues, he visited a Manhattan school for the pleasure of sharing school lunch and a book, one-on-one, with a child. They returned to the same child with another book each week. "It may have been the personal attention as much as the reading," says Tannenbaum, "but we saw kids who were becoming more motivated to read." After he retired, Tannenbaum started the "Everybody Wins Foundation," devoted to matching volunteers from the pri-

vate and public sectors—now 700 and growing—with book-hungry schoolchildren.

Trelease is off his stool now, walking around the front of the auditorium, talking about books, spinning yarns, reading letters. He is serious and funny, touching and sarcastic, charming and cantankerous, but always as riveting as the books he promotes. Before concluding, he takes a visual survey of gender balance in the room and finds it about one-third male.

"Isn't this unbelievable, that men could go out to an evening program and there's not a hockey stick involved? Usually my audience is less than 10 percent male." But he points out one place where no shortage of males exists: in the remedial reading classes of American schools. In this country, boys constitute 70 percent of such classes, but in some countries the ratio is reversed. "So the problem is not genetics," he contends. "It's athletics. It's the message Dad gives: 'What you see me get excited about, Son, is not *Charlotte's Web.* It's things you throw and things you catch. It's the Giants and the '49ers and the Kings.' Folks, that's sick. And you're looking at a sports fancier. I love sports. But guys, you can do it all: you can shoot some hoops in the driveway after supper and—I know this sounds incredible—on the very same night you can read *Charlotte's Web*!"

He finishes two hours after he began, and a hundred people go out into the rain, home to sleeping children. Tomorrow, for reasons they will not understand, a lot of kids in St. Helena, California, are going to hear their parents read to them, perhaps for the first time in years.

A Trelease compendium: titles tried and true

By Jim Trelease

Hey! Listen To This, 48 stories for reading aloud to K-Grade 4

Read All About It!, 50 stories for reading aloud to preteens and teens

The New Read-Aloud Handbook, all-time best-selling parent/teacher guide to children's books

Infant Books

The Little Dog Laughed and Other Nursery Rhymes From Mother Goose, illustrated by Lucy Cousins

Wordless Picture Books

Deep in the Forest by Brinton Turkle

The Silver Pony by Lynd Ward

Picture Books

Bill Peet Books (any of more than 30 titles by Bill Peet)

Thomas' Snowsuit by Robert Munsch

Somebody Loves You, Mr. Hatch by Eileen Spinelli

Mrs. Toggle's Zipper by Robin Pulver

The Minpins by Roald Dahl

The Poppy Seeds by Clyde Robert Bulla

Fairy Tales and Their Parodies

Little Red Riding Hood by Trina S. Hyman

Flossie & the Fox by P. McKissack

Lon Po Po by Ed Young

The Principal's New Clothes by Stephanie Calmenson

The True Story of the Three Little Pigs by Jon Scieszka

The Three Little Wolves and the Big, Bad Pig by Eugene Trivizas

Jack and the Beanstalk by J. Howe

Jim and the Beanstalk by R. Briggs

Monster Mama by Liz Rosenberg

Poetry

Where the Sidewalk Ends and *A Light in the Attic* by Shel Silverstein

Chapter Books and Novels

My Father's Dragon, Elmer and the Dragon and *The Dragons of Blueland* by Ruth Stiles Gannett

The Friendship and *The Gold Cadillac* by Mildred Taylor

Rip-Roaring Russell, Russell Rides Again, Russell Sprouts, Russell and Elisa and *'E' is for Elisa*, series by Johanna Hurwitz

Stone Fox by John Gardiner

El Guero by Elizabeth Borton de Trevino

Charlotte's Web by E.B. White

James and the Giant Peach by Roald Dahl

Where the Red Fern Grows by Wilson Rawls

Sideways Stories from Wayside School by Louis Sachar

The Indian in the Cupboard, series by Lynn Reid Banks

Novels (Teens)

Hatchet, The Foxman and *Wood Song* by Gary Paulsen

Maniac Magee by Jerry Spinelli

The True Confessions of Charlotte Doyle by Avi

ORDINARY PHONE LINES CARRY

GTE Videoconferencing can take you to your next meeting, no matter where it is. By combining live video, text

VOICES. OURS CARRY PEOPLE.

and graphics, you can still be there even if you can't go there. GTE *It's amazing what we can do together.*™

The biggest fish that

Photographs by Jeffrey L. Rotman

ever was

Gentle whale sharks roam the world's warm seas but were rarely seen until an Australian gathering place was found

Docile it may be, but a whale shark coming head-on would be enough to freeze the blood of a timid diver.

It can grow as long as a tractor-trailer. Thousands of teeth line its jaws. A fearsome killing machine of the open sea? No, a gentle giant, a placid consumer of tiny prey that spends a lot of time basking at the surface.

The whale shark (*Rhincodon typus*, meaning "snout-toothed-type specimen") is not only the largest fish on Earth, it is the largest fish that has *ever* lived on this planet. It can grow to 40 feet—and possibly to 60. It may live for 60 years, but no one really knows.

In fact, remarkably little is known about this immense creature, and most of that is fairly recent. Much of what we do know can be found in *Sharks in Question* by Smithsonian curators Victor G. Springer and Joy P. Gold, published by Smithsonian Press. Although whale sharks range around the world in the shallow waters of tropical and warmer parts of temperate seas, alone or in schools of hundreds of individuals, they rarely come close to shore and are hardly ever seen. Today, however, anyone can see whale sharks, at least in the months of March or April: then, for reasons unknown, the enormous fish

Round features above mouth corners are end points of nasal grooves; a sucker fish clings to lower lip (right).

congregate by the hundreds along Ningaloo Reef on the coast of Western Australia.

Just like blue whales, the largest mammals in the sea, whale sharks feed on the smallest prey: plankton (minute animals and plants), shrimp and small fish. These sharks swim just below the surface with their huge mouths wide open, straining the water through their gills. (All those teeth serve no discernible purpose, by the way; they are too small to accomplish anything and, in any event, this creature does not chew its food.)

In Australia, this great fish has metamorphosed from mystery to public attraction. Divers come from all over the world, and the government has had to prohibit touching or riding what Springer and Gold call the "docile, colossal whale shark." We have already come to the disorienting realization that we are in danger of hunting sharks, erstwhile monsters of the deep, to extinction (SMITHSONIAN, May 1993). And now we have a shark, one of unparalleled magnitude, that we may just love too much.

A young golden trevally, acting as a pilot fish (at left) is dwarfed by its host. Shark's inconspicuous eye is placed well behind its mouth. A veritable school of remoras (below) has attached itself to this individual. Dirigible-like animal (opposite) is a female, which will produce free-swimming young. These pictures were all taken on the coast of Western Australia.

"We've got three trucks and we've never had

People and nature can live in harmony, according to John Sawhill, President of The Nature Conservancy. For instance, bison at the Conservancy's Tallgrass Prairie Preserve in Oklahoma share miles of pristine grassland with tourists and scientists. To protect and preserve the land, The Nature Conservancy gets corporations, landowners and private

and 300 bison,

a single traffic jam.

"

citizens to work together to help. The goal: safeguarding the environment without destroying jobs or businesses. That's a goal General Motors shares. So we're supplying funds, talent and even the GMC Trucks used to maintain Tallgrass. John says, "The Conservancy gets results you can walk around on." And the results are truly spectacular.

By Doug Stewart

One man's private cache pays off for the rest of us

From the muddy yard of a private collector to the dresser drawers of a dealer, Mitchell Wolfson ransacks the world for his finds

Mitchell Wolfson, founder of Collection of Decorative and Propaganda Arts in Miami Beach, shows off the book he purchased at age 13. Opposite, two-foot-high head from a statue of archangel Michael arrives from Berlin.

"Oops, underwear."

Mitchell Wolfson jr., collector extraordinaire, unhurriedly slides the top drawer of the red lacquered dresser shut. The dresser sits in the bedroom of an antiquarian book dealer's apartment in Munich. Five minutes earlier, having politely dismissed most of the hardbound treasures the dealer had laid out for him in the tiny shop's back room, Wolfson had announced: "Let's go upstairs." The dealer, looking stricken, now watches helplessly from the hallway as Wolfson rifles through his belongings.

The rooms of the small fifth-floor walkup are literally crammed with art books, journals, antique photograph albums, and erotic lithographs. (Apart from the underwear, it's not clear where the book dealer keeps his clothes.) Wolfson, unlike his host, is serene, like a gourmand sitting down to a buffet at his favorite restaurant. This obviously isn't the first time he's done this. "I don't like to buy what's offered," Wolfson had explained to me earlier outside the shop. "Every collector likes to make his own discoveries."

An hour later, having delicately ransacked each room in the apartment, Wolfson piles his finds triumphantly on the living room coffee table: avant-garde art periodicals from the 1920s, books glorifying prewar German industry, a rare monograph on German bookbinding. For the latter alone, the dealer insists on 1,600 Deutsch marks—nearly $1,000—but Wolfson doesn't even blink at the prices. And then he arranges for everything to be packed and shipped to Miami, Florida, USA.

For some 20 years now, from as far afield as Lapland and Chile, Micky Wolfson has been shipping his treasures to Miami. There, a staff of 30 is busy organizing the accumulation, known as the Mitchell Wolfson Jr. Collection of Decorative and Propaganda Arts. Most museums have acquisition committees to decide what to buy. Micky Wolfson, until quite recently, made all of his purchases on impulse, using his own money.

A 55-year-old bachelor, Wolfson is flamboyant, energetic, maddeningly persistent in pursuing what he wants, and very, very wealthy. (He received $84.5 million when his late father's string of Florida movie theaters and TV stations was sold in 1984.) His tastes are instinctive, not acquired. "Certain things don't appeal to me," he says simply, "and those things are not in the collection." The things that *do* appeal to him include two barber's chairs from the shop where Giuseppe Verdi got his hair cut, sample books of burial-casket fabrics, a self-propelled railroad car, and King Farouk's eight-volume matchbook cover collection.

Altogether, the collection's 70,000 objects include hundreds of paintings and sculptures, thousands of architectural drawings, prints and posters, as well as

Photographs by Richard Sexton

Wolfsonian Foundation's state-of-the-art museum and research center, which houses a 70,000-piece collection, originally served as ornamented storage facility for use by Miamians. Inaugural exhibit opens there in November.

books, furniture, machines, ceramics, commemorative medals and plaques, and ephemera. Micky Wolfson's spoils, though vast, have not been chosen haphazardly. "I don't collect art for art's sake," Wolfson likes to say. "This is a collection of ideas." His trove of objects forms a visual record of the Machine Age, mostly in five countries (the United States, England, Germany, Italy, Holland and their empires). In his purchases, he's hewed rigidly to the 60-year period ending with World War II, an era that saw vast social and cultural upheavals, the rise of mass production and mass consumption, and new forms of mass persuasion and propaganda. A notable part of the collection is a dizzying assortment of Fascist-era propaganda materials, from a futuristic 360-degree profile of Il Duce to a Braille edition of *Mein Kampf* (p. 111).

"The collection is an incredibly rich resource," says Derek Ostergard, dean of the Bard Graduate Center for Studies in the Decorative Arts, in Manhattan. "It pulls from high and low, from Europe and America, through all different materials and across many decades." The conventional art historian's view of modernism has focused too narrowly on the accepted masterworks of a few celebrated artists and designers, according to Ostergard, and big private collectors have followed suit by collecting such pieces as status symbols. "Micky isn't intrigued by that idea," Ostergard says. "He relies on more visceral impulses."

Bernard Reilly, a curator in the Prints and Photographs Division at the Library of Congress, allows that Wolfson may be a self-taught connoisseur, not an art historian, but notes that art historians aren't traditionally trained to focus on the historical and political ideas surrounding an object's creation. "The things that Micky has collected defy the traditional standards of connoisseurship," Reilly says. Their value is not always in how beautiful they are, he says, but in what they tell us about the cultures that produced them. "You could say that art history is now swinging a little closer to Micky Wolfson's approach to things."

In November the collection will complete its transition from the private hoard of a single idiosyncratic collector to an influential, professionally curated public institution. The Wolfsonian Foundation, which Micky Wolfson

Doug Stewart, a regular contributor, wrote for SMITHSONIAN *most recently about the* Great Eastern.

established in 1986, will open the doors of its stylish headquarters in south Miami Beach with "Designing Modernity: The Arts of Reform and Persuasion, 1885-1945," an ambitious, 300-piece inaugural exhibition drawn largely from the collection. After five months in Miami, the show will travel to museums in Seattle and Pittsburgh, and abroad.

The embryonic museum won instant credibility in 1987 when Wolfson hired Peggy Loar away from the Smithsonian Institution, where she had been head of the traveling exhibition program (SITES), and made her the director. A careful and well-organized administrator, Loar remembers visiting the loading dock on her first day of work and seeing hundreds of unopened shipping crates and cartons. Inside were some 50,000 uncatalogued objects. "The two people designated to unpack the stuff figured it would take them six months, even if they did nothing else. I thought, 'What have I done?'" Loar urged her new boss to accept an immediate moratorium on new acquisitions. Wolfson agreed—for two weeks. Soon more crates began arriving, sometimes several hundred a month, from various global outposts through which he was passing.

The largest and most extravagant object in the entire collection has stayed where Wolfson found it. The Castello Mackenzie-Wolfson is a towering, 100-room ersatz-medieval fortress perched on a hillside overlooking Genoa. When I fly to Europe to join the collector for one of his notoriously exhausting shopping trips, this time through southern and eastern Germany, I first stop in at the castle. Finished in 1913, this "weirdly grandiose monument to fin-de-siècle eclecticism," in the words of one local magazine, was built with central heating, elevator, sauna and heated indoor swimming pool.

Wolfson loves an audience, and he tends to travel with an entourage. His traveling companions for our German tour are Peggy Loar and a longtime chum, New York artist Michele Oka Doner. After rendezvousing at Genoa, we fly to Munich.

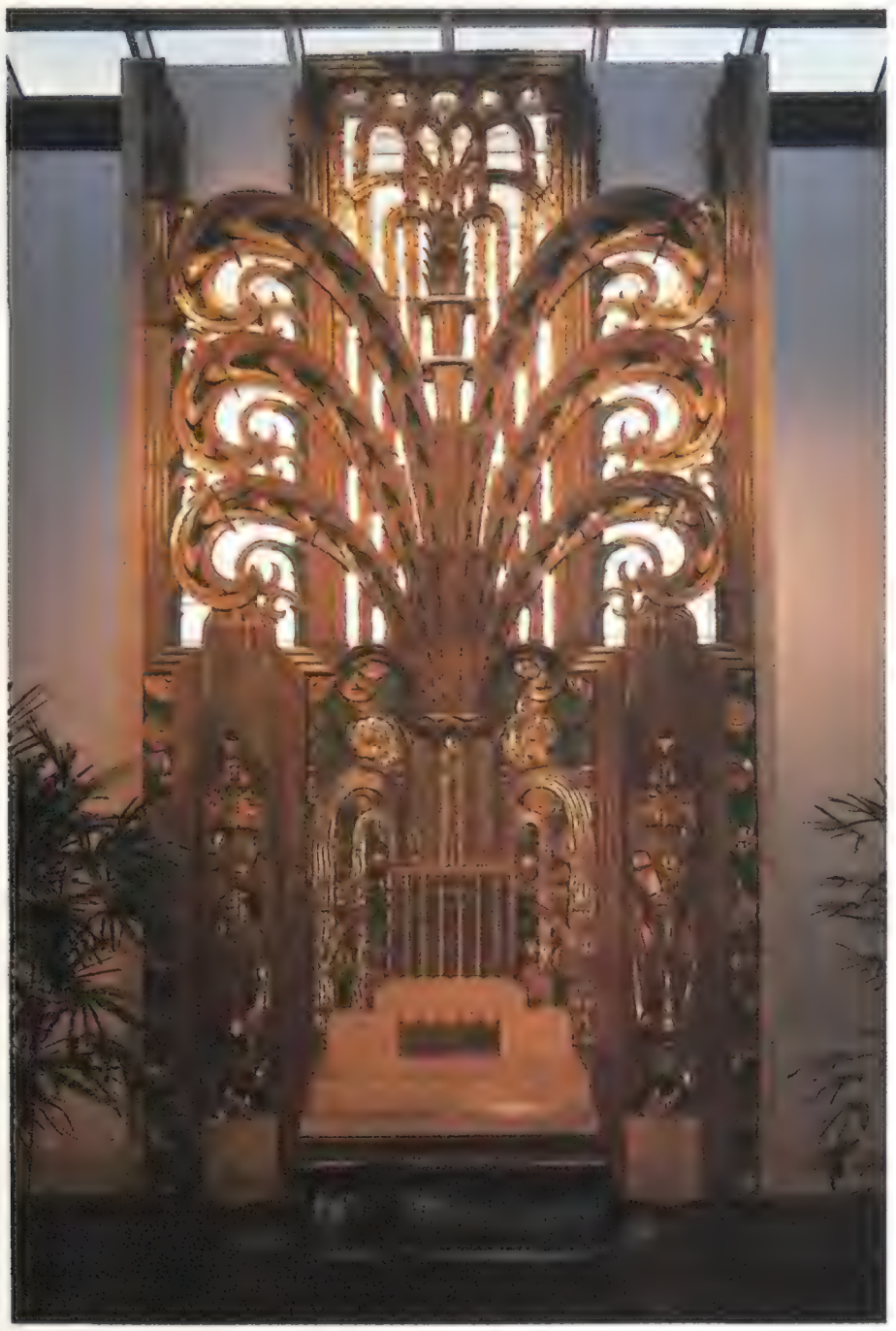
In person, Micky Wolfson is charming and extroverted, a nomadic bon vivant with a flair for the dramatic and an expatriate's unplaceable accent. He cultivates an Old World air, sporting an Edwardian mustache and a taste for slightly faded grand hotels, *ancienne cuisine* and private railroad cars. (Until they were wrecked in Hurricane Andrew, he crisscrossed North America in a pair of restored Pullmans from the 1920s; they inevitably doubled as freight cars, hauling cemetery gates or seaplane pontoons back to Miami.) Ostensibly, the purpose of our trip through Germany is to cement contacts with scholars and curators with whom the Wolfsonian may work in the future. But for Wolfson, a day without a purchase is a day gone to waste.

In Munich, we make the rounds of museums, galleries and auction houses. Wolfson's penchant for Nazi artifacts is something that German private collectors don't indulge in openly—technically, the trade is legal only for museums. In one shop, a dealer produces a pair of swastika-covered carpets she has saved for him, unrolling them with an embarrassed flourish. The carpets, she says, once decorated Braune Haus, Munich's long-gone Nazi Party headquarters. After a bit of good-natured haggling, Wolfson buys them for $7,000 each. Later, at a large auction house, he rolls his eyes at a wall-hanging with peacocks but zeroes in on a box of old filmstrips; he buys "The Days of Relaxation for the Führer—For Home Entertainment."

Wolfson bridles when I ask about his attraction to Nazi memorabilia. "I do not collect Nazi art any more than I

Radios, including a Dick Tracy wrist model, bespeak the futuristic, inventive past of industrial design.

Pottery for Queen Victoria (center), Russian painted mirror, American shelf clock, are turn-of-the-century.



Elaborate 1929 window grille from a Pennsylvania theater now adorns main entrance hall of Wolfsonian.

collect Art Deco. I collect objects that have been produced between 1885 and 1945," he says. He doesn't dispute that Hitler was detestable but sees no reason to dismiss out of hand the art and propaganda produced while he was in power. Not that he ignores an object's context: on the contrary, what fascinates him is the interplay of politics, culture and taste. To Wolfson, design objects serve as little history lessons. "I collect, therefore I learn," he likes to say.

Stopping last at a crowded indoor antiques show, Wolfson looks up old friends. "Have you anything for me?" he asks sweetly of a dapper old gent whom he'd visited here ten months earlier. Nothing right now. The dealer offers a parting in broken English: "I wish you good luck and, mmm, good . . . challenge!" He knows Wolfson well enough to understand that the thrill of the chase is what motivates him.

On the road, Wolfson likes to indulge his love of adventure. He travels without a watch, without maps, without even a phrase book, though his German is rudimentary. "I love serendipity," he says. "You just have to know how to play it." As our train approaches Jena, he suddenly orders us all off—he's decided to take a shortcut to Weimar by rented car. When neither taxis nor rental cars can accommodate our baggage-laden party of four, he procures a delivery truck and delightedly drives us through the gloomy pine forests to Weimar while pointing out castles through the oversize windshield. In Weimar, Chemnitz and Dresden he's in motion from morning to night, visiting museums, dealers and architectural curiosities. We grab food and visit restrooms when we can—Wolfson stops for neither.

"I'm not a hoarder," he insists

Piloting a large Mercedes at 100 miles an hour along the autobahn to Berlin one afternoon, Wolfson fills me in on his view of collecting. "I'm not a hoarder," he says. "I care about objects, but I have no sense of possession. If I love something, I buy it. But I stop loving it once it's acquired." Indeed, I've noticed, whether buying a cut-glass vase or 80-year-old architectural drawings, he seems visibly to lose interest in them as soon as the price is settled. "I don't want these things for myself," he says. "I've always intended my collection to be public."

"Micky's a hunter-gatherer," says Oka Doner from the backseat. "You're witnessing the hunt. You haven't seen the gather yet. That's back in Miami."

Wolfson's obsession with collecting started small. As a child, he collected keys, most of which he swiped from hotels; eventually, he had thousands. As he matured, he became more discriminating. He still remembers the thrill of discovering, at 13, in a bookstall along the Seine, a copy of "The Rime of the Ancient Mariner" illustrated by Gustave Doré (p. 103). He paid perhaps $5 for it. "I

just thought it was the most beautiful thing I'd ever seen," he says. "Of course, I didn't know it was a second edition." He studied European civilization at Princeton and then political science and economics at Johns Hopkins University, earning his master's degree in 1965. Looking for adventure, he joined the U.S. Foreign Service. "I asked for Ethiopia, South Africa, Afghanistan"—all exotic hot spots, he explains. To his disappointment ("and how"), he was posted to Washington, D.C. for a year and a half, then Genoa, where he served as vice consul. Genovese culture grew on him, and he began collecting Italian decorative arts and other materials in earnest when he quit his consular job in the early 1970s.

Peeking behind the back-room curtain

In pursuit of an object, Micky Wolfson is an irresistible force of nature. At an elegant gallery in Berlin, he spies a turn-of-the-century Richard Riemerschmid side chair in a back room behind a curtain. Wolfson is transfixed. It is, he realizes at once, a rare exemplar of a line of mass-producible wooden furniture that echoed the gracefulness of Art Nouveau while prefiguring the later austerity of the Bauhaus. Wolfson doesn't have one of Riemerschmid's distinctive chairs, but he knows he needs one—it will fill an important historical gap in the inaugural show, as his curator in Miami, Wendy Kaplan, has been reminding him with some urgency. "It's the first time I've seen a Riemerschmid that I like," Wolfson tells me excitedly as he circles the piece. "I mean, this chair explains everything."

Unfortunately, it's the prize of the dealer's personal collection, and it's not for sale. Wolfson is undeterred. For more than an hour he wheedles, cajoles and pleads, explaining that he simply must have that chair. "You could come to Miami, and I'd let you sit in it. We could have lunch. Dinner, too. What are you doing on the seventh?" If his entreaties were any more energetic, he could be tried for assault. The dealer, a courteous, scholarly man in half-glasses, is visibly uncomfortable, rubbing his mouth and staring out the window at the rain-soaked street for long periods. Eventually, inevitably, he realizes he's not being offered a choice, and he relinquishes his precious chair. The price, in the low five figures, is never an issue.

Wolfson relishes finding treasures in unexpected places. In a fashionable western suburb of Berlin, a place of gated villas and secluding trees, we visit the home of a major private collector. The large, high-ceilinged rooms are filled with busts and sculptures of Bismarck, Goethe and various nymphs, many of them life-size. *The Rape of Europa* blocks a hallway. A pair of black metal knights on horseback, the size of Great Danes, dominates the living room. The few chairs on hand are small plastic afterthoughts, pushed into corners.

Strong graphics characterize pre-1945 periodicals from the United States, Austria, Britain and the Netherlands.

Propeller coffee table with blades for magazine racks and skyscraper bookcase glorify Machine Age design.

The man is a local judge, a friend of friends, and Wolfson has never seen his collection before. Though nothing is for sale, Wolfson contentedly inspects sculptures, ceramics and medallions for nearly three hours as the judge—a formal man in a black suit, with close-cropped black hair and thick wire-rimmed glasses—looks on proudly, sometimes even purring softly. Unlike Wolfson, he's passionate about his possessions. His wife invites us to stay for an improvised supper of prosciutto, assorted cheeses, and hot wedges of bread. Only during dessert does our host mention a curiosity that he acquired three years earlier: a statue now lying supine in the garden, too big even for the house's ten-foot ceilings. Wolfson abruptly grabs a candlestick, stands up and demands, "Where is it?"

A sculpture lying in the mud

We pull on our coats and file out into the darkness, the judge leading the way. Under a tangle of branches, we behold a magnificent terra-cotta sculpture of the archangel Michael lying in sections on his back in the mud, gripping a sword and scowling fiercely. The figure is stylized Art Deco with streamlined sword and armor. The three-ton, 15-foot statue, produced in the late 1920s, was destined for a church in the German colony of Tsing Tao in China, but the Depression intervened, and the statue never left Germany. It has never been displayed anywhere. Instead, it lies here in the mud, all the more breathtaking for being so absurdly out of place: Gulliver in the forsythias.

"It's amazing! It's fantastic!" Wolfson is chortling. In his imagination, the monument is already looming over his Miami museum. He loves its grandeur, its Weimar Republic roots, its imperial connotations, its thwarted itinerary. "Tell me," he asks, still clutching the candlestick as he stands on Saint Michael's torso, "will you sell it to me?" We stand silently in the darkness while the frowning judge looks down at his cherished statue and fidgets. Finally, he answers, "I'll have to ask my wife." Half an hour later, Micky Wolfson has his showpiece. The archangel is going to be a Floridian.

In Miami Beach two months later, Saint Michael hasn't yet appeared—the art shippers have to wait for the mud to thaw in the spring—but other objects are arriving in a steady stream, purchases that Wolfson has made, as well as objects sent by dealers on spec. In an old Bell Telephone building turned storage facility and conservation lab, I watch art handlers uncrate a huge metal bell from a California locomotive (trains being one of Wolfson's lifelong obsessions). Nearby, 956 architectural drawings, all rolled in tubes, have just arrived from the Midwest.

Registrar Anita Gross unrolls the two swastika-filled carpets I'd watched Wolfson buy in Munich. "We're still working on the documentation," she says, referring to proof that they came from Braune Haus. Next to these is an older tin champagne bucket that he'd bought from the same shop. I pick it up to study the bas-relief of a construction derrick. "We'd prefer you didn't touch it," Gross says, handing me a pair of white cotton gloves. I realize everyone on the floor is wearing them. It's hard for me to adjust to the shift from champagne bucket to Precious Object. In the Munich shop, after all, Wolfson had been hugging the pail like a teddy bear. Even the archangel Michael, once he's finally extracted from the Berlin mud, will get the white-glove treatment.

Elegantly simple chair by German designer Richard Riemerschmid, from early 1900s, was ahead of its time.

Not far away is the Wolfsonian Foundation's main building, a giant cube built in 1927 as a warehouse where part-time Miamians stored their silver and furs over the summer. Wolfson began storing his collection here in the 1970s when he could no longer move around in his own apartment. The collection eventually took up the whole warehouse, so Wolfson bought it. It has just been elegantly transformed into a state-of-the-art museum, with high-tech security, multimedia computer workstations, and objects from the collection popping up everywhere, from elevators to emergency stairwells.

While Wolfson himself professes not to care about a piece's beauty or ugliness—he's called his collection "art-

Who'd think millions of people would come to a town like ours just to shop.

It's easier than going down to the mall. Instead of fighting traffic and the crowds, and trekking from store to store to find what you want, you can shop in friendly Dodgeville, Wisconsin – through the Lands' End catalog.

Oh, we may lack the piped-in music and the fast-food places you find at the mall. But browsing through our catalog has its own satisfactions.

There's *tons* to choose from. From khaki pants to cashmere sweaters, buttondown shirts to weekend luggage. All of a quality you don't find most places anymore. And all of it, priced fairly.

You have our "store" to yourself. You can browse in your own good time. And when you find what you like, simply pick up a phone and call us. Even at 3 a.m., if you want.

Your order will be filled in one day, and delivered almost anywhere just two business days later. And if you don't *like* what you ordered, simply return it. It's–"Guaranteed. Period."

Does this sound like no shopping you've ever done before? Maybe you should pay our catalog a visit.

© 1995 Lands' End, Inc.

LANDS' END DIRECT MERCHANTS

Guaranteed. Period.

If you'd like a free catalog, call us any time, 24 hours a day, at **1-800-356-4444** (in Canada, too). HM

Name _____

Address _____ Apt. _____

City _____ State _____ Zip _____

Phone ( ) Day/Night *(circle one)*

Mail to: 1 Lands' End Lane, Dodgeville, WI 53595

A private cache pays off

infested documentation"—curator Wendy Kaplan is trying to winnow from his thousands of objects those gems that most strikingly demonstrate good design. "Micky's an accumulator," says Kaplan, a historian of the decorative arts, "and we are the scholars who have come to select and make a story of this accumulation."

The story that the opening show will tell, and that the permanent installation on two other floors will reinforce, is how designers and their clients between 1885 and 1945 used objects to prepare the public for the modern age. The show is divided into three roughly chronological but overlapping groupings. The first section, "Confronting Modernity," focuses on early, sometimes awkward attempts to graft modern ideas onto traditional forms. The stamp of Wolfson's peculiar taste is everywhere: in a tapestry designed in 1895 by Norwegian Gerhard Munthe called "The Daughters of the Northern Lights," an example of romantic nationalism that's based on a made-up myth; and in an almost comically gaudy vessel made for Queen Victoria's Diamond Jubilee in 1897, depicting mighty Britannia ruling the waves in antique galleons.

The second chronological grouping, "Celebrating Modernity," is a full-speed-ahead glorification of machines, power and the future: a lacquered 1928 cabinet and bookcase by Paul Frankl that suggests an indoor skyscraper; a 1939 coffee table in the shape of a large propeller, the eight blades serving as magazine racks; Isamu Noguchi's quaintly reassuring "Radio Nurse" (a child's bedroom monitor shaped like a woman's head) from 1937. The final section, "Manipulating Modernity," is anything but reassuring. Here are designs as tools of propaganda: kitschy figurines of milk-fed Hitler Youth, a dinner plate from 1920 with dancing Russian letters spelling out "Long Live Worldwide Civil War," a sumptuously printed Fascist-era children's ABC ("D is for Duce"), even a racist Italian board game based on the bombing of Ethiopia.

The objects to be exhibited are a tiny fraction of the collection, as in any museum. A much larger fraction is shelved in aisle after aisle of "open storage" on other floors of the museum. These areas, along with the huge research library, are open only to researchers. To encourage their scrutiny, the foundation has begun offering fellowships to visiting scholars.

The transition from private collection to public institution hasn't been easy, but Wolfson, to his credit, is committed to making it work. He now tries to keep to a budget, and he pays attention to the wish lists of his curatorial staff. "While Micky's collection is incredibly strong in many areas, there are certain gaps because it *is* one man's collection," says Kaplan. "And after all, it is his money." Wolfson ultimately makes the buying decisions, and he refuses to buy art that simply bores him (Bauhaus objects being a chief offender). A handful of loan objects will round out the inaugural show.

During a brief lull between trips, Wolfson invites me to lunch on the terrace of his spacious home on Biscayne Bay. He inherited the house from his parents, and not surprisingly, it is overflowing with sculptures, wall hangings and miscellaneous souvenirs. In a bowl on a tabletop is the key to his stateroom aboard the *Queen Elizabeth 2* for a just-completed ocean crossing, his 79th. For my benefit, the butler plugs in a prewar electric ravioli maker, which starts clanking like a printing press.

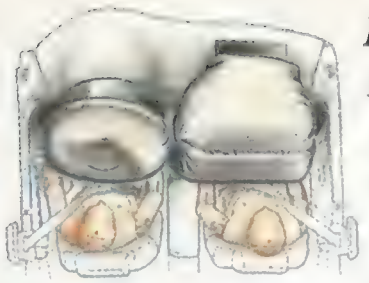
Over minestrone and pineapple, Wolfson makes clear he doesn't want his museum-in-the-making to be South Florida's latest tourist attraction. He wants visitors to leave the museum feeling thoughtful rather than entertained. "This whole collection is an attempt to grab and digest what man has made. Nazi, Socialist, Fascist, Communist—it's all the same to me. I'm looking at the way that people have used the language of objects to express themselves." And in so doing, he feels, he has at last found his own true voice. As a young man enamored of the creative arts, he yearned to be a sculptor, a painter, a writer or a composer, but he lacked the talent. Taking stock now, he sees himself as an artist all the same: collecting is his medium, the Mitchell Wolfson Jr. Collection his self-portrait in 70,000 hues.

"It's exactly what Thomas Wolfe did in *Look Homeward, Angel* and *Of Time and the River*," he says. "He poured out millions of words in a loose narrative, and his great editor shaped what he wrote and gave it a structure." So Micky Wolfson plays Thomas Wolfe to Peggy Loar and Wendy Kaplan's collective Maxwell Perkins, and the result will be an institution that does much more than testify to one man's obsession.

Pre-World War II-era tensions live on in 360-degree profile of Mussolini (center) and puppet of Hitler.

LECTURE
NEWS
ADVERTISING

Mein Kampf
Adolf Hitler



In the Dodge Intrepid, you'll find airbags are standard for both the driver and front passenger. Traction control is available along with anti-lock brakes. And our available integrated child safety seat is conveniently built into the back seat.

In fact, throughout Intrepid you'll find what Motor Trend has called "touches of genius." To us, they're simply things that make good sense. And now that we've seen what's possible in a four-door sedan, we can't see building one any other way.

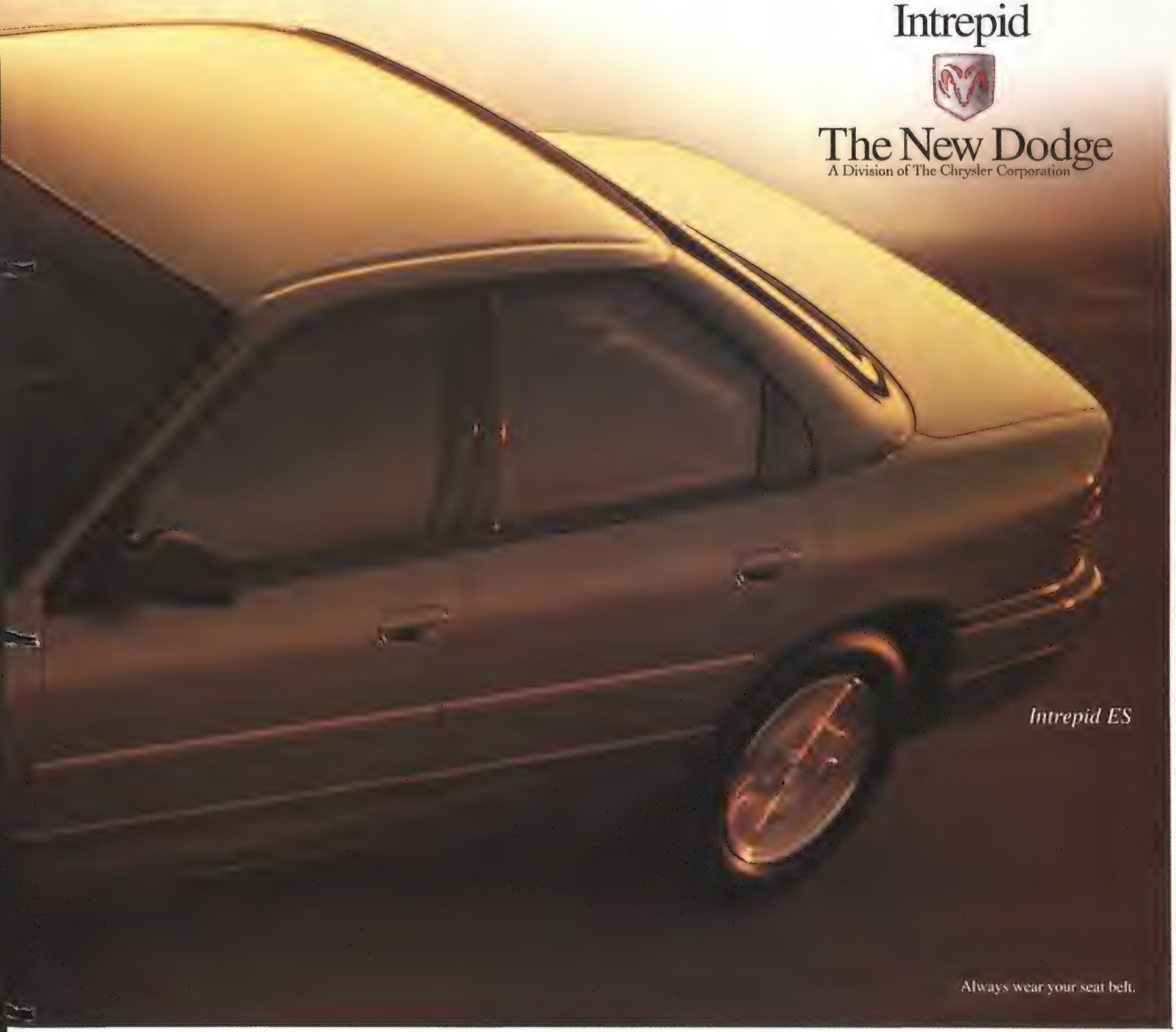
If common really that there'd more cars

sense were common, be a lot like this.

- *Standard driver & front passenger airbags*
- *Available anti-lock brakes & traction control*
- *Available integrated child safety seat*
- *Available speed sensitive steering*
- *Standard rear seat heat & air ducts*
- *Standard air conditioning with available automatic temperature control system*
- *Standard four-wheel independent suspension*
- *Available 3.5L V-6, 24-valve overhead cam, 214 hp*
- *Available Infinity Spatial Imaging™ sound system*
- *New Customer One Care™ 3-year or 36,000-mile bumper-to-bumper warranty and 3/36 Roadside Assistance. See limited warranty & restrictions at dealer. Excludes normal maintenance & wear items.*
- *For still more information, call 1-800-4-A-DODGE.*

Intrepid

The New Dodge
A Division of The Chrysler Corporation



Intrepid ES

Always wear your seat belt.

By Richard Conniff

Frederick Douglass always knew he was meant to be free

Taking to the podium throughout his life, the former slave fought with tireless eloquence to 'secure the Blessings of Liberty' for all

The "uproarious and happy boy" then known as Frederick Bailey was 6 years old on the morning his grandmother Betsey took his hand and walked him 12 miles into his life as a slave. It was a bright August day on the Eastern Shore of Maryland, hot and humid, he later wrote. At times, his grandmother had to tote him on her shoulders; at times, he walked beside her, imitating her practiced stride. When the dirt road took them into the woods, he clutched her hand at the sight of monstrous, staring figures, which turned out to be tree stumps.

Real terrors lay ahead that day in 1824, but about them his grandmother maintained "the reserve and solemnity of a priestess." She had been through these forced separations too many times before: like the other grandchildren she reared, Frederick had been someone else's property since birth, hers only on loan. In mid-afternoon they arrived at the Chesapeake Bay plantation where "old master" lived, and she set Frederick among the other slave children. Then, not wanting to prolong the sorrow of parting, she slipped away from him without a word. The boy wept himself to sleep that night, torn from "the only home I ever had." It was "my first introduction to the realities of slavery."

By the standards of slavery, Frederick was often to get favored treatment over the next 14 years. But the realities were to include hunger so sharp that he had to vie with the dog for table scraps, and cold so intense that his bare, calloused feet cracked open. Like other slaves, he was systematically denied family, education, even the knowledge of his own birth date. He saw his fellow slaves savagely beaten. He suffered the pencil-thick scars of the whip on his own back. These realities of slavery were an outrage Frederick refused to accept almost from that first day, and the struggle begun then would in time anger and inspire millions of Americans.

He called himself Frederick Douglass after he escaped to freedom at the age of 20, and he soon established himself in the antislavery movement as a fearless enemy of the slave owner and the hypocrite.

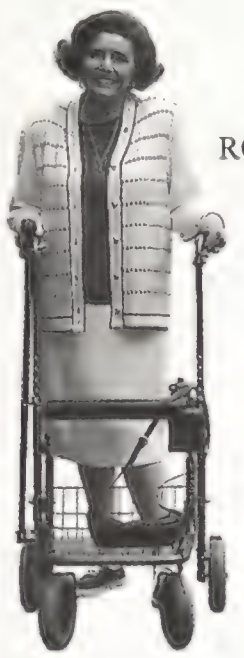
"What, to the American slave, is your Fourth of July?" he asked, in one impassioned speech, at a time when more than three million African-Americans remained in bondage. "To him, your celebration is a sham . . . your shouts of liberty and equality, hollow mockery. . . . There is not a nation on the Earth guilty of practices more shocking and bloody than are the people of the United States at this very hour."

White Americans came to his talks by the thousands, sometimes just to gawk or jeer. But they also listened, if only because Douglass shrewdly cast himself in a classic American mold, as an almost miraculously self-made man. To audiences in the decades before the Civil War, it was as if this slave—deemed a "chattel" by law—had leapt to the speaker's podium straight from his grandmother's cabin at Tuckahoe Creek. "*It* could speak," Douglass remarked mordantly. In truth, he spoke with wit, erudition and richness of voice to rival Daniel Webster's.

His physical presence was also commanding. He was more than six feet tall, with olive brown skin, a shock of hair slanting across his broad forehead, and flashing, wounded eyes. The feminist Elizabeth Cady Stanton vividly remembered the first time she heard Douglass speak, at an antislavery meeting in Boston, where he swept his listeners from laughter to tears on the tide of his voice. "All the other speakers seemed tame after Frederick Douglass," Stanton wrote. "He stood there like an African prince, majestic in his wrath."

When the voice was stilled by death 100 years ago, Frederick Douglass vanished for a time from history. Even the estimable Samuel Eliot Morison found no room to include him in his *Oxford History of The American People*, published in 1965. But since then Douglass has been rediscovered in three substantial biographies, and on television and stage. Yale University is methodically publishing the multivolume *Frederick Douglass Papers*, and the Library of America last year issued *Frederick Douglass: Autobiographies*, an annotated collection. To mark the centennial of his death, the Smithsonian's National Portrait Gallery is now presenting the exhibition "Majestic in His Wrath: The Life of Frederick Douglass."

At 30, a year after launching the *North Star*, Douglass began another phase of his lifelong fight for equality.



NobleMotion, Inc.
ROLLING WALKERS

"I adore my Rover™ Walker!"

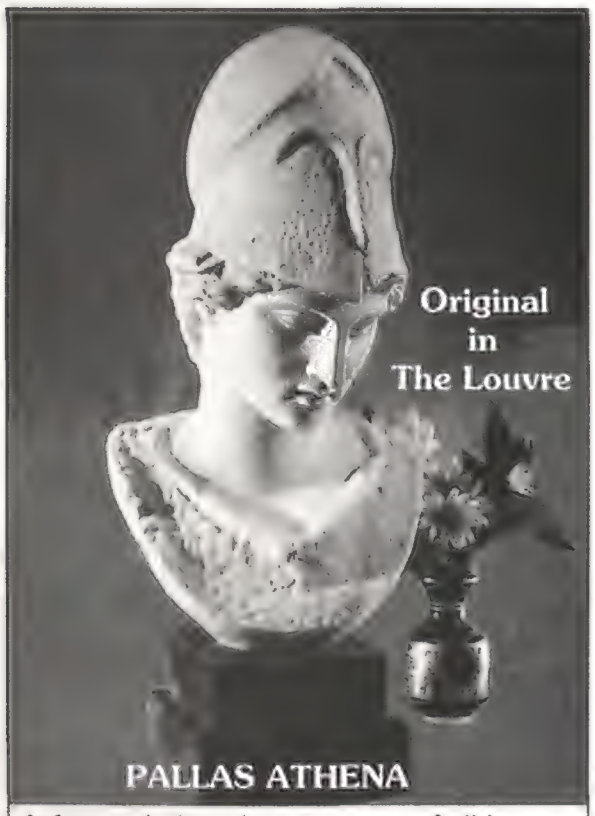
Patricia Neal

Your NextStep to Independence.

- Gets you walking to better health.
- Swedish components-built in USA.
- Seat, basket included; tray optional.
- Fully adjustable; folds for travel.
- Unique easy-grip brakes.

MONEY BACK GUARANTEE
-Kick our tires.

Call for FREE Information
800-234-WALK (9255)
P.O. Box 5366sm, Pittsburgh, PA 15206



Athena, beloved protectress of all heroes who fought against evil. The magnificent 4th century BC head is reproduced 19" high in bonded marble on a walnut base...$260 ppd. Unqualified guarantee. Check, VISA, MC. The Eleganza Collection also presents the goddess in a smaller bust and two bonded marble wall hanging reliefs. **120 page artbook color catalogue of 350 museum reproductions $6.**

ELEGANZA LTD. *Importers of Fine Statuary*
Magnolia Village • 3217 W. Smith #232
Seattle, WA 98199 • 206/283-0609

It was an astonishing life. "I feel greatly embarrassed when I attempt to address an audience of white people . . . it makes me tremble," he declared to a group of Massachusetts abolitionists in one of his earliest speeches. But it didn't stop him from adding: "Prejudice against color is stronger North than South; it hangs around my neck like a heavy weight."

Before there was a civil rights movement, before the word "racism" itself existed, Douglass led the movement that desegregated the schools of Rochester, New York, where he and his wife raised their family. Long before Rosa Parks refused to give up her seat to a white man on a segregated bus in Alabama, Douglass had to be dragged bodily from a whites-only railroad car in Massachusetts—and he tore the seat out with him. Before the assassinations of Malcolm X and Martin Luther King jr., Douglass was repeatedly attacked and beaten by mobs yelling "Kill the damned nigger!" Repeatedly he fought back, and lived.

Nor did the pressing issues of race prevent him from advocating human liberty at large. At the Seneca Falls, New York, convention of 1848, where the feminist movement was born, Frederick Douglass was the only man to vote for women's suffrage. The newspaper he had founded the previous year proudly declared, "Right is of no sex, truth is of no color."

In time, the tireless voice of Frederick Douglass would help lay the groundwork for the emancipation of slaves in the Civil War and for the 15th Amendment to the Constitution, which, on paper, guaranteed black men the right to vote. But he would also live to see the failure of his grand vision that freedom and the vote would win blacks an equal place with whites in American life. He lived to see his own achievements tainted with racial humiliation and sometimes misused not to advance other blacks, as he had dreamed, but to put them down.

Richard Conniff wrote and produced a television documentary about fire ants, which will air on TBS in April.

Douglass' escape with seaman's papers inspired "The Fugitive's Song," 1845.

The plantation where his grandmother left young Frederick Bailey that afternoon in 1824 was one of Maryland's most prosperous—10,000 acres of flat, fertile land on which the Lloyd family had settled in the 1660s. The "great house" still stands and looks much as it did when Frederick knew it. In the cellar, most of the steel bars have fallen out of the window of a small, dank room. But upstairs, huge tarnished mirrors still hang where they once reflected the face of Jefferson Davis after the fall of the Confederacy, and of Frederick Douglass on his return visit as an elder statesman. Until her death in 1993, a member of the Lloyd family still lived there.

It is a handsome Federal-style house at the end of a long, tree-lined avenue, a few miles outside Easton. The sight of its "solemn grandeur," Douglass later wrote, "was a treat to my young and gradually opening mind." Frederick was already an unusual child. He became the companion and, surreptitiously, a careful student of the Lloyd family's youngest boy. The great house,

not the slave quarters, was to be his chosen element.

His mind also opened quickly to the horrific gulf between these worlds. Apart from cold and hunger, Douglass suffered little personal mistreatment on the Lloyd plantation. But in *Narrative of the Life of Frederick Douglass*, published in 1845, he recounted the violence all around him.

One incident burned itself into the child's memory. Frederick was the property not of the Lloyds themselves but of their head manager, Captain Aaron Anthony, the man his grandmother had spoken of as "old master." His modest brick house also still stands, on the plantation farm road, but the site of the kitchen building where Frederick slept is now just a faint depression in the grass.

Just before dawn one morning, from his bed on the rough floor of a pantry there, Frederick heard a noise. Peering out through cracks in the coarse boards of the door, he saw his Aunt Hester with "old master." She was a tall, well-formed 15-year-old, and from motives Douglass later described simply as "abhorrent," "old master" had forbidden her to court a young slave of her own age. She disobeyed, and now "old master" tied her crossed hands to

Anna Murray gave him train-ticket money for escape; they later married.

FOUR MERCURY DIMES
Better Graded • 90% Silver • Minted 1916-1945
Free Catalog
COMPLETE STARTER KIT
Only $10.95 . . . Add $3.00 postage
Satisfaction Guaranteed
The Dime Store
15540 Kilmarnock Dr. S.E. • Fort Myers, FL 33912

World Class
Bird Feeding
• Beautiful copper feeders
• Lowers safely & easily to fill
• Holds up to 30 lbs. of seed
• Guaranteed squirrel-proof
• Includes free-standing base
Call toll-free: 1-800-BIRDS-FLY
THE BACKYARD SANCTUARY CO.
550 Warren Street • P.O. Box 307,
Dept. 129 • Hudson, NY 12534
8-1/2 Feet Tall

ORIGINALS
Go ahead. Dream.
Lindal's new 266 pg. 11" x 14" hardcover ORIGINALS has 680 photos, 115 plans and hundreds of design ideas. $14.95 plus $5 shipping. 1-800-426-0536.
Lindal Cedar Homes
P.O. Box 24426, Dept. BC2, Seattle, WA 98124

ADVENTURE — TREASURE
America's Treasures
P.O. Box 403 • Ocean Shores, WA 98569
Picture yourself exploring
one of America's ghost towns, locating a treasure ship or looking for buried treasure. For the locations of over 880 ghost towns, 420 sunken ships & 180 buried treasures send only $15.00 check or money order to:
America's Treasures • P.O. Box 403 • Ocean Shores, WA 98569

Now It Takes Only 12 Weeks To Get From "Before" To "After".
BEFORE
Don W. — Age 27
Before
Body weight: 194 lbs.
% Body fat: 11.5%
Waist: 33 inches
Arms: 12.5 inches
Chest: 40.5 inches
After*
Body weight: 175 lbs.
% Body fat: 6%
Waist: 31 inches
Arms: 15.5 inches
Chest: 44.5 inches
AFTER
YOU GET RESULTS FAST.
Now you can see impressive results like Don's in only 12 weeks!* Research shows that the patented isokinetic resistance mechanism of a NordicFlex Gold® strength trainer works your muscles more efficiently than other, ordinary strength trainers.
up to 38 total-body exercises
30-DAY IN-HOME TRIAL!
YOU GET A FASTER WORKOUT.
NordicFlex Gold automatically adjusts to your strength level for a fast, effective workout. Since you waste no time adjusting resistance, your changeover time between exercises is faster than with other systems!
Get a leaner, firmer body in only 12 weeks! Call now for your free video and brochure.
*Individual results may vary.
FREE Video and Brochure, CALL 1-800-441-7890 Ext. 91KB5
or write: NordicTrack, Dept. 91KB5, 104 Peavey Road, Chaska, MN 55318-2355
YES, I want to learn about the industry leader. Send me a FREE brochure and VHS videotape.
Name Street
City State Zip Phone ( )
NORDIC FLEX Gold
Best of all...it's from NordicTrack, a CML Company!
©1995 NordicTrack, Inc., A CML Company • All rights reserved.

DECK HOUSE

Individual design. Superior building materials.
Post and beam architecture. Built on your site,
anywhere in the country.

Call or send $20 for a Design Portfolio filled with floor plans, color photos and specifications.

1-800-727-3325 DECK HOUSE
930 Main St., Dept. E , Acton, MA 01720

a beam in the kitchen ceiling and tore open her unblemished back with a cowhide whip. Douglass wrote that she screamed "Have mercy! Oh! have mercy!" but "her piercing cries seemed only to increase his fury."

With constrained emotion, Douglass commented that a slave woman was routinely vulnerable to the "caprice and passion of her owner," and that marriage was allowed to have no meaning among slaves. But he did not pursue the tormenting idea that Captain Anthony may have subjected Hester's older sister Harriet to the same monstrous treatment. Harriet was Frederick's mother. For much of his childhood, she was a field hand on a distant farm, and the memory of her infrequent visits remained achingly fresh. She died before he was 10, without confirming or denying the rumor in the slave quarters that Captain Anthony was his father. Slavery, he wrote, "left me without an intelligible beginning in the world."

Douglass' mother became an almost mythic figure for him. He attributed the love of letters for which he became famous largely to this "unprotected and uncultivated" field hand, who had somehow learned to read. He also

There was criticism over second wife, Helen (seated), here with her sister.

Are You *Pressured* by Your Mattress?

Spring, air and **foam** mattresses are pressurized. When you lie on them, they push back all night long. **Pressure is not your friend.** It causes backaches, sore joints, stiffness and numbness. For your body's sake, don't spend 1/3 of your life lying on a **pressurized** mattress! There is a better way! Order our **FREE** catalog. **Get all the facts on mattresses!**

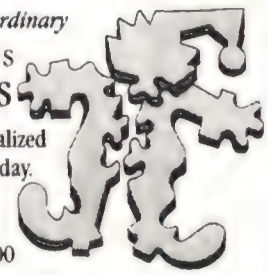
Request Cat. 21 1-800-782-4825

Recorded Books, Inc.

Forrest Gump
by Winston Groom

Unabridged on audiocassette—critically-acclaimed narrators, professionally produced, over 1,000 titles to choose from. Histories, mysteries, classics, sci-fi—all genres! Ask about our quick and easy rental by mail.
Call now for a free brochure:
1-(800)-638-1304
270 Skipjack Road • Prince Frederick, MD 20678-3410

Certain gifts must simply be extraordinary
THE FAMOUS
Stave Jigsaw Puzzles



Since 1974, the finest handcut personalized wooden jigsaw puzzles being made today. $95 - $2000. Call or write for free catalog. Stave Puzzles, Box 3298, Norwich, VT 05055 ☎ 802-295-5200

HAND CARVED MAHOGANY WARBIRDS

- 16" to 22" models are hand-crafted from solid mahogany with handpainted markings and details
- Over 160 models in stock
- Priced from $99.50
- Satisfaction guaranteed

Call 1-800-950-9944

PACIFIC AIRCRAFT
WORLD'S LEADING MAKERS OF FINE AEROSCULPTURES
14255 North 79th Street
Scottsdale Airpark, AZ 85260
(602) 991-1841

Cultural Folk Tours Int'l
& Bora Özkök present
17th year tours of
TURKEY
GREECE & EGYPT
CRUISES, GOURMET, MUSIC TOURS
Hospitable people, beautiful country, good climate. Incredible amount of history. We will stress culture, people, folklore, handicrafts, folk music, village visits, photography & much more.

GREAT TOURS - GOOD QUALITY - REASONABLE PRICES
GOOD HOTELS - GOOD FOOD
INDIVIDUAL & GROUP TRAVEL
CONVENTIONS • AIR TICKETS

9939 Hibert St., Ste. 207
San Diego, CA 92131-1031
(619) 566-5951
From U.S.A. & Canada
1-800-935-8875

COPPER CANYON

Victorian Hacienda
in the bottom of a remote Mexican canyon. The Hacienda is a shady oasis in the silver-mining village of BATOPILAS, between towering canyon walls and blue rivers. The nearest phone is 8 hrs. away. GARDENS, 14 GUEST ROOMS, CHEF. Walk to ruins, lost missions, remote villages.1 800-776-3942, 1 810-340-7230

Nantucket Lightship Basket Pendant
Gleaming 24 kt gold plate pendant, 1" across, in matte or polished finish, on a 30" chain. Choose from 3 scrimshaw designs. Includes gift box, miniature penny inside each basket, and The Story of The Lightship Basket. $34.95 postage paid. Satisfaction guaranteed.
(Mass. residents add 5% sales tax)
Gary Arthur Accessories, Inc.
Write for catalog: P.O.Box 1655, Attleboro, MA 02703-0028
800-675-9762 (orders only)
Visa/MasterCard/American Express

A rare daguerreotype documents an outdoor meeting near Syracuse, New York, to protest the Fugitive Slave Act in 1850. Douglass is seated at the right.

credited his grandmother's valuable example. Though illiterate, she had won a measure of independence by her practical skills at farming and at manufacturing the long drift nets used for harvesting shad and herring from the Tuckahoe. Recognizing something special in Frederick, perhaps including kinship, Captain Anthony's family soon spirited him away from the brutality of the plantation to be a house servant for their in-laws in Baltimore.

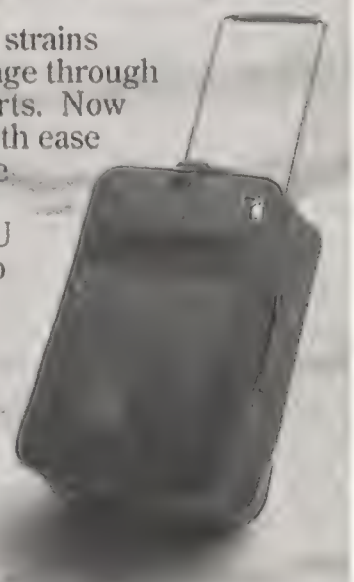
There, Sophia Auld started to teach the 8-year-old his letters, but her husband quickly stopped her. "Learning would spoil the best nigger in the world," he said, as if Frederick could not hear every word. Education "would forever unfit him to be a slave. . . . If you learn him how to read, he'll want to know how to write; and this accomplished, he'll be running away with himself." Douglass later described it as "the first decidedly antislavery lecture" he ever heard.

The boy set out, against all odds, to educate himself. Put to work in a local shipyard, he noticed that the carpenters chalked each sawed-out timber with initials, like "sf" for "starboard forward," indicating its eventual placement in the ship. Copying these letters on a fence board, he challenged his white playmates to beat his penmanship and thus inveigled them into helping him learn the alphabet.

He also listened as they memorized speeches for school from a standard anthology of the day, *The Columbian Orator*. Words like "emancipation" (albeit of Catholics in Ireland) and "equality" (albeit of white Americans with their European rivals) fired his imagination. When he had accumulated 50 cents from polishing boots, he bought a secondhand copy for himself. There he found the three-page "Dialogue Between A Master and Slave," in which the slave argues that kind treatment can never compensate for depriving a man of liberty. When the master declares that "Providence" has made him a slave, the slave replies that Providence "has also given me legs to escape with."

Frederick would carry with him the message, the rhetorical method and his copy of *The Columbian Orator* when he made his own escape eight years later. Using the borrowed papers of a free

FREE
ROLLING LUGGAGE CATALOG!
Plus, 20% off 1st Catalog order.



No more back strains carrying luggage through crowded airports. Now you can roll with ease using the same luggage, and more, that ASU has supplied to over 85,000 airline flight crews. Many models, sizes, colors, and accessories available.

Money back guarantee!

ASU INCORPORATED

Call Toll-Free
1-800-756-1444, Ext. 412

ASU, Inc. 5725 Paradise Ste 800 Corte Madera, CA 94925

Try a package of thick, juicy, world-famous Omaha Steaks®. Luscious FILET MIGNONS, aged to tender perfection. Closely trimmed by hand. Delivered to your door, frozen under dry ice, in a reusable cooler. A FREE COOKBOOK inside. Your satisfaction is Unconditionally Guaranteed!

INTRODUCTORY OFFER...SAVE $22.00!

#469 **6** (5 oz.) **FILET MIGNONS,** each 1" thick
Regularly $51.95...for just **$29.95!**
(plus $6.95 shipping/handling*)
LIMIT OF 2 PKGS. AT THIS SPECIAL PRICE!

OFFER (valid in U.S. & Canada) EXPIRES 2/28/95
*(Outside mainland states, Ontario and Quebec, additional shipping applies.)

TO ORDER, CALL RIGHT NOW... TOLL FREE
1•800•228•9055
(Ask for Free Catalog & 10% Discount Coupon!)

Omaha Steaks® International®
Dept. AF5020 • P.O. Box 3300 • Omaha, NE 68103

WOOD, WATER & FIRE...

A RELAXING BLEND

Beautiful, hand selected cedar, still water and a gentle warming fire in your Snorkel stove are all you'll need to enjoy a relaxing soak, gazing at the evening stars in your Snorkel Hot Tub.

Affordable hot tubbing can become an every night pleasure. Once you have your tub... the evening stars are free!

snorkel hot tubs

Snorkel Stove Company
Wood Fired Hot Tubs
Dept. S 95024
4216 6th Avenue South
Seattle, WA 98108

Yes, send me FREE Information

Name _____

Address _____

City _____ State ___ Zip _____

Phone _____

日本刀 JAPANESE SWORDS

For Free Evaluation Sheet

TOLL FREE 800-435-5119

$200 $250,000 CASH PAID

French Art Glass (Galle, Daum), Tiffany Lamps Also Wanted

David E. J. Pepin—Member NBTHK, Tokyo, Japan
Dept. SI, P.O. Box 354, Grant Park, IL 60940

The original RIVERSTONES™ add poetry to the garden or home. Each natural stone is deeply inscribed. Choose DREAM, LOVE, HOPE, WELCOME, REMEMBER, IMAGINE.

SMALL (6"–8")...$55 LARGE (12"–15")...$75
MEDIUM (9"–11")$65 X-LARGE...(by request)

Add $15 per stone for shipping & handling.
Full refund guaranteed.

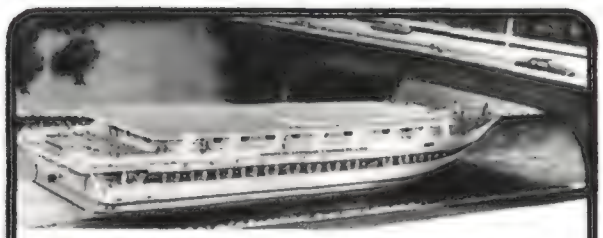
SEND CHECK OR MONEY ORDER TO

Stoneworks Gallery
P.O. BOX 35-H • TUXEDO, NY 10987
1-800-STONE-08 • FAX 1-800-STONE-61

CUSTOM ORDERS · FREE CATALOGUE

VIXEN HILL GAZEBOS

Discover our wide selection of modular, cedar Gazebos and screened GardenHouses, engineered for easy assembly by the non-carpenter.
Send $4 for our 22-page color catalog with pricelist.
Vixen Hill, Dept. SM-4, Elverson, PA 19520 • 800-423-2766



SMALL SHIP CRUISES

Unique summer cruises in New England, Erie Canal and Canada, Great Lakes, Mid America and more.

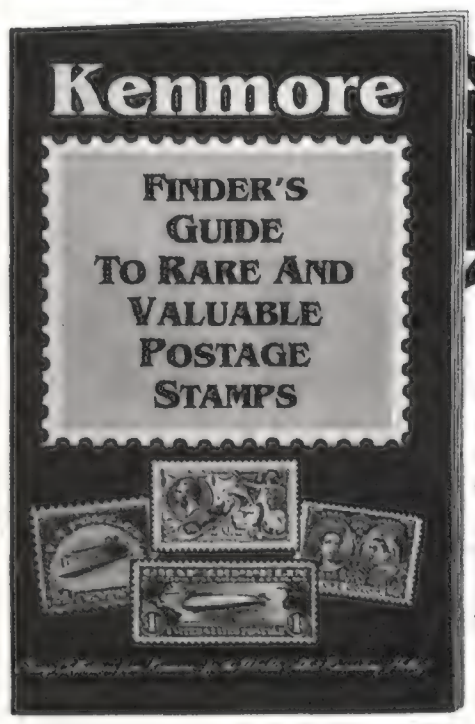
American Canadian Caribbean Line

Call 800-556-7450 for Free Brochure.

PUBLISH YOUR BOOK!

Join our satisfied authors in a complete and reliable publishing program. This program includes attractive books, publicity, advertising and quality service since 1959. All subjects are invited! Send for a FREE manuscript report & copy of *How To Publish Your Book.*

CARLTON PRESS 11 W. 32nd St. Dept. SMN New York, NY 10001



YOURS FREE!

Add a new dimension to your stamp collecting pleasure with two new valuable publications guaranteed to increase your enjoyment of the **World's Most Rewarding Hobby!** The **"Finder's Guide to Rare and Valuable Postage Stamps"** — a fascinating illustrated booklet that will enable you to tell at a glance **how to recognize rare stamps — stamps once considered relatively common and now worth up to hundreds and thousands of dollars each!** Plus latest edition of the big, new illustrated **Collectors' Catalog** featuring Special Collections from the United States, Canada, British Colonies, United Nations, Russia, Germany and the World!

Both Publications FREE!
Call 1-800-225-5059 or write to:
Kenmore, CF-005, Milford, NH 03055

black seaman, he took a train north.

By 1841, the fugitive Frederick Bailey had become "Frederick Douglass" (a name borrowed from a poem by Sir Walter Scott). He had married Anna Murray, a free black woman from Baltimore who had helped him escape, and they were living in Massachusetts. He shoveled coal and dug cellars for a living, and stoked his wrath against slavery by reading William Lloyd Garrison's abolitionist newspaper, *The Liberator.* He also preached abolition to other blacks in his local church.

Garrison, the leader of the antislavery movement, heard Douglass speak in Nantucket in 1841; the group that Garrison led immediately hired him as a lecturer. For the struggling antislavery movement of the 1840s, Douglass was, in his own words, a "brand new fact," the first fugitive-slave lecturer: "Up to that time, a colored man was deemed a fool who confessed himself a runaway slave, not only because of the danger to which he exposed himself of being retaken, but because it was a confession of very *low* origin!"

Frederick Douglass was unafraid to say just how low slavery had set him, and he made a virtue of overcoming it. He had spent the years before his escape working both in Baltimore and in the fields of the Eastern Shore. He could recount the horrors of slavery in the most moving language many listeners had ever heard, in a voice that could be conversational one moment, and the next, "roll out full and deep" as organ music. "I have come to tell you something about slavery—what I know of it, as I have felt it," he began. Other abolitionists could not speak "from experience; they cannot refer you to a back covered with scars, as I can; . . . my blood has sprung out as the lash embedded itself in my flesh." And he added, from a deeper vein of emotion, "the whip we can bear without a murmur, compared to the idea of separation . . . the agony of the mother when parting from her children."

When critics doubted the stories he

told, Douglass took the extraordinary risk of revealing his true identity and the names of his tormentors in his 1845 *Narrative.* Anyone could now go to the very fields where young Frederick Bailey had been hired out to Edward Covey, a tenant farmer and reputed slave breaker, and ask the truth about what Douglass called "the turning point" in his career as a slave.

Even today, it's possible for a curious visitor to find the farm, where another tenant farmer now grows soybeans and winter wheat, and stand looking out on the same turbid waters of the Chesapeake Bay. Here, in despair at the age of 15, Frederick envied the white sails of ships freely passing by and begged for deliverance: "O God, save me! . . . Let me be free!" Soon afterward, in a barn here, Covey attempted once too often to whip him. Knocked sprawling on the stable floor, Frederick felt his spirit revive: "I resolved to fight; and . . . I seized Covey hard by the throat." They grappled for two hours, and in the end the slave had made it clear "that the white man who expected to succeed in whipping, must also succeed in killing me." He was never whipped again.

The account of his life in slavery was so detailed and accurate that Frederick Douglass faced renewed danger of being kidnapped back to the South. On the advice of his mentors in the antislavery movement, he sailed for Europe—and was nearly heaved overboard en route by proslavery passengers who did not want him to lecture. The incident made headlines on his arrival, and his lectures over the next 21 months enabled him to return to the United States as an international celebrity—and, literally, as his own man. British supporters raised $700 to buy his freedom from the Auld family. They also allowed him for the first time in his life to eat a meal, register at a hotel, go to church or visit a friend free from the dismal American refrain, "We don't allow niggers in here!"

Back in this country, Douglass moved his wife and their children away from Massachusetts, where white abolitionist leaders still regarded him more

In 1877 Frederick and Anna settled into this house, which Douglass named Cedar Hill; it looks across the Anacostia River at the Capitol dome.

"IT'S SIMPLY INDISPENSABLE."

That's what you hear owners say about Hill/Climber, the personal outdoor transportation system. Wherever activities exist on multiple levels or things have to be carried up steps. Wherever easy access is needed to a cabin, boat dock or parking area. Hill/Climber provides the reliable, easily-installed solution.

For free literature, please contact:

INCLINATOR COMPANY OF AMERICA
Dept. 23
PO Box 1557
Harrisburg, PA 17107-1557
(717) 234-8065

FREE CATALOG
Huge Selection
Lowest Prices

America's Biggest Selection of
Bargain Books

Overstocks, Remainders, Imports and Reprints from all major publishers. Books recently priced at $20, $30, $40–now as low as $1.95, $2.95, $3.95.

Thousands of titles, from yesterday's best sellers to books you never knew existed.

Over 40 subject areas: History, Biography, Fiction, Politics, Sports, Science, Nature, Gardening, Cooking and more.

Fast Shipment, normally within 48 hours, and a moneyback guarantee.

Please send me your Free Catalog of Bargain Books.

Name

Address

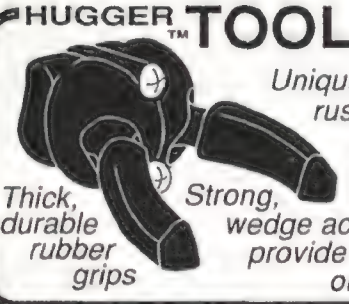
City

State Zip

HAMILTON
Box 15-611, Falls Village, CT 06031

Wüsthof-Trident
6" Cook's Knife ~~$65~~ $39.95
Classic, White Classic or Grand Prix
S&H $4.75
CT Res. $2.68 Sales Tax

Professional
Cutlery Direct
(800) 859-6994
Free catalogue of great savings on fine European cutlery
Dept. SM152 , 170 Boston Post Rd., Ste. 135, Madison, CT 06443

HUGGER™ TOOL GRIP

Unique, (Pat Pend) rust-free design stores tools "head down"
Thick, durable rubber grips
Strong, wedge action arms provide a firm grip on tool handle
Garage • Workshop • Closet
Wide holding range: 1/2" to 1 3/4"
• HUGGER™ Tool Grips hold everything from shovels to hammers to brooms.
• Easy, one handed operation: just push tool "Up and In".
• Grips odd shaped handles as well as round ones.
5 Tool Grips for $12.25 + $2.75 S&H
Specify color: Gloss Black, Red or White
Check or M.O. to: US261 Corp.
P.O. Box 19066-A Cleveland, OH 44119
Highest Quality - American Made

KITES
FREE COLOR CATALOG
Choose from over 200 exciting kites.
• Many unusual & innovative designs.
Call or write for your catalog today!

Into The Wind • (800) 541-0314
1408-R Pearl St., Boulder, CO 80302

LEATHER BACKPACK RUGGED ONLY $29.95
HISTORIC EXPLORERS of America required backpacks that were tough! Now YOU can enjoy the richness (smell that leather) and durability of soft, 100% leather in this modern version of the famous trail pack of yesteryear. Rich tan color. Black metal hardware. Roomy 14" x 17" x 6" cargo compartment plus 3 handy expandable outside pockets. Two 2" wide adjustable shoulder straps. Excellent bookbag. Offers 1,000 uses for any outdoorsman and a touch of class for those "long hours on the trail." Send $29.95 + $3.95 delivery. Use 30 days, money back if not pleased. MasterCard & Visa accepted (phone 312-445-6166). C.O.D. require $5 deposit. Order today! Midwest Company, Dept.L-6219 9043 S. Western Ave Chicago, IL 60620. Special 2 packs for $58.90 postpaid. Our 54th year.

BONUS ORDER NOW
RECEIVE A COMPASS FREE

WALK ENGLAND
Travel back in time on our luxury tours of the enchanted villages and spectacular mountains in Wordsworth's Lake District, plus The Roman Wall and Yorkshire Dales.
World-class walking and literary/cultural/culinary fun.
12-person groups. Private suites in a Victorian mansion.
ENGLISH ADVENTURES (303) 797-2365
803 Front Range Road • Littleton, CO 80120

as a hired performer than as their peer. He established his own newspaper, the *North Star,* in Rochester, New York. He and Anna made their new home a refuge for the steady traffic of runaway slaves who were following the underground railroad to Canada. A white Englishwoman named Julia Griffiths managed the publishing business during his frequent absences on the lecture circuit. She also became his intellectual companion, and their appearance together on the streets of New York City drew obscene shouts and a physical assault. The friendship developed as Douglass and his wife were drifting apart emotionally. As he moved out into the world of politics and letters, Anna Douglass withdrew into child-rearing and her garden. Books were his private passion, but she could read only two words: "Fred" and "Douglass."

The voice of Frederick Douglass grew more powerful through the violent decade leading up to the Civil War. Most abolitionists abhorred the U.S. Constitution, which treated the slave as three-fifths of a human being. But Douglass now declared that the constitutional oath to "secure the Blessings of Liberty to ourselves and our Posterity" was, in fact, an oath to free the slaves. He advocated emancipation within the political system, and despite his sympathies, he refrained from openly advocating a slave rebellion. Better than most abolitionists, he could imagine the bloody consequences for blacks.

Seeing the wild impracticality of the scheme, he refused to join his friend John Brown in a suicidal raid on the federal arsenal at Harpers Ferry in 1859. The raid, of course, failed. One of the martyrs of the event, Shields Green, had traveled with Douglass to meet with Brown before the raid, and when Douglass resolved to leave, Green stayed behind. "I b'lieve I'll go wid de ole man," he said mildly. His death and the others at Harpers Ferry aroused the nation. Douglass later

Saber Tooth Cat

Exquisite full size museum quality fossil replicas for collections, display and education.
Send or call for free literature
SKULLDUGGERY • 624 South B Street
Dept SB5 • Tustin, CA 92680 • (800) 336-7745

MEN'S WIDE SHOES
EEE-EEEEEE, SIZES 5-13
Extra width for men who need it.
Excellent variety, styling and quality. Send for FREE CATALOG.

HITCHCOCK SHOES, INC.
Dept. 21B Hingham, MA 02043

48,000 Patterns
China, Crystal & Flatware
Obsolete, Inactive And Active.
Buy Or Sell.
REPLACEMENTS, LTD.
1089 Knox Road, PO Box 26029
Greensboro, NC 27420 - Dept. SM25A
1-800-562-4462

TANZANIA • KENYA
AFRICA
TOP QUALITY NATURALISTS, LUXURY TENTED CAMPS, EXPERIENCE AND ATTENTION TO DETAIL.
SAFARI TO EAST AFRICA WITH THE WORLD LEADER IN NATURE TRAVEL.

INTERNATIONAL EXPEDITIONS INC
800-633-4734
ONE ENVIRONS PARK • HELENA, AL 35080

PERSONALIZED CARTOUCHE JEWELRY
Your name translated into Egyptian hieroglyphics.
HANDMADE IN EGYPT
Cartouche shown spells 'Charlotte'

18K Gold from $150
Sterling Silver $40
TO ORDER, CALL
1 (800) 447-2504
VISA • MC
AMEX • DISCOVER
for FREE BROCHURE
Call or Write:
LITTLE EGYPT IMPORTS
P.O. Box 32977
Kansas City, MO 64111

"The Growlery" was Douglass' private retreat and study at Cedar Hill.

remarked, "I could live for the slave; John Brown could *die* for him." He was soon battering his way to the podium through a crowd of racist hecklers to advocate death to slaveholders, death to slave-catchers, and war.

"I believe in agitation," he declared, and the Civil War did not change that. When President Lincoln found it expedient to wage war to preserve the Union, not to end slavery, Douglass denounced the Administration for "moral blindness . . . and helpless imbecility." He helped maintain the political pressure which, together with military expediency (and moral vision), induced Lincoln to issue the Emancipation Proclamation on January 1, 1863. Douglass called it "a day for poetry and song," wept with fellow abolitionists—and continued to agitate. He set to work recruiting more than a hundred men, including two of his own sons, to make the emancipation of slaves a reality under the banner of the U.S. Army's newly formed 54th Massachusetts, the first black regiment. Then Douglass went to the White House to agitate on behalf of black soldiers.

Lincoln greeted Douglass warmly and listened to his complaints: black soldiers got half the pay of white soldiers, could not become officers and faced the added peril of being put to death if captured by the Confederates. Some of the soldiers Douglass had recruited had already fought and died at Fort Wagner; prisoners from the 54th had been sold into slavery. Douglass came away impressed with Lincoln's sincerity and convinced he would act—always within the limits of practical politics—to protect the black soldier.

Back on the lecture circuit, Douglass remained the conscience of the war effort, keeping his listeners focused on the high moral ground of freedom versus slavery. "No war but an Abolition war," he declared in 1864, when Lincoln and the Union wavered, "no peace but an Abolition peace; liberty for all, chains for none; the black man a soldier in war; a laborer in peace; a voter at the South as well as at the North. . . . Such, fellow-citizens, is my idea for the mission of this war."

The decades after the war brought Douglass honors but seemed to take away his spirit. He worked tirelessly for the passage in 1870 of the 15th Amendment to the Constitution. Black men now had the vote, but that did not prevent them from being "mobbed, beaten, shot, stabbed, hanged, burnt . . . the target of all that is malignant in the North and all that is murderous in the South." His own home in Rochester was destroyed by arson in 1872. The postwar years saw the use of every imaginable device, legal or otherwise, to keep blacks from exercising their new rights.

Douglass moved his family to Washington, D.C. in search of a public office worthy of his abilities. As a 19-year-old slave he'd had the audacity to dream out loud among his free black friends that he would some day become a U.S. Senator. Now he became president of the Freedman's Bank, just in time to take the blame when it defaulted on the meager savings of its black account holders. He went on to become Marshal of the District of Columbia, a job that gave Douglass status and the power to employ blacks. But this appointment of the most prominent black man in America also served as a

ADVENTURE CRUISES

Close-up & Casual – In Alaska & the West

SEE FOR YOURSELF! Order this award-winning video to learn about a better way to experience Alaska, British Columbia, and the Columbia & Snake Rivers.

Just $4.95 includes postage. For credit card orders call ***(800) 841-6675***; you'll also receive free color brochures. For free color brochures only call ***(800) 426-7702.***

1SM295

Alaska Sightseeing Cruise West

4th & Battery Bldg., Suite 700, Seattle, WA 98121

MEMBER ASTA American Society of Travel Agents Integrity in Travel

Ships of U.S. Registry

Want to brush up on a foreign language?

With Audio-Forum's intermediate and advanced materials, it's easy to maintain and sharpen your foreign-language skills.

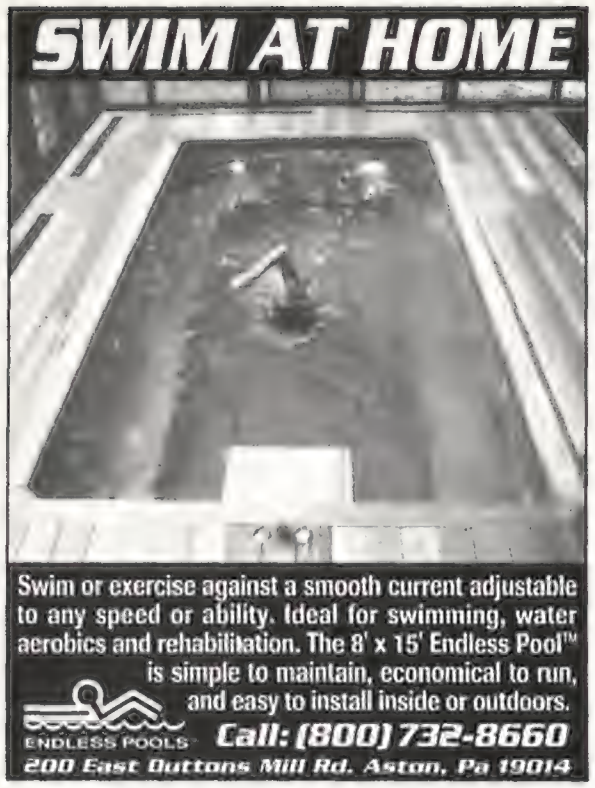
Besides intermediate and advanced audio-cassette courses—most developed for the U.S. State Department—we offer foreign-language mystery dramas, dialogs recorded in Paris, games, music, and many other helpful materials. And if you want to learn a new language, we have beginning courses for adults and for children.

We offer introductory and advanced materials in most of the world's languages: French, German, Spanish, Italian, Japanese, Mandarin, Greek, Russian, Arabic, Korean, and others.

Our 60-page *Whole World Language Catalog* offers courses in 91 languages. Call 1-800-448-7671 or write for your free copy. Our 23rd year.

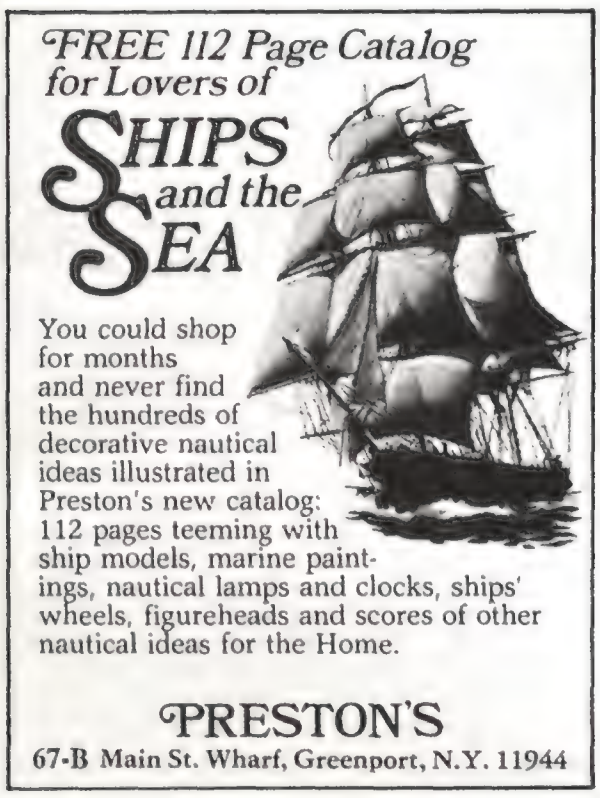
AUDIO-FORUM®

Room E214, 96 Broad Street, Guilford, CT 06437 (203) 453-9794

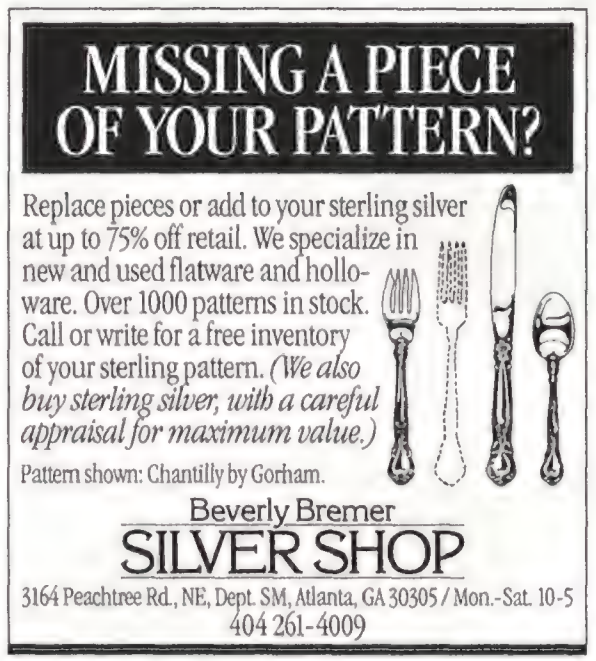

SWIM AT HOME
Swim or exercise against a smooth current adjustable to any speed or ability. Ideal for swimming, water aerobics and rehabilitation. The 8' x 15' Endless Pool™ is simple to maintain, economical to run, and easy to install inside or outdoors.
ENDLESS POOLS
Call: (800) 732-8660
200 East Duttons Mill Rd. Aston, Pa 19014

New from Italy:
Liquid Silver
Only Italy could create such shimmering elegance in sterling silver, transforming delicate strands into timeless beauty.
18" Necklace $146, 2-1/2" Post Dangle Earings $44
Call 1-800-FOCA-123
Ins. S&H $5.95. Visa/MC, or send check/money order to:
FOCA UNIQUE FINE JEWELRY
911 Independence Ave, SE, Washington, D.C. 20003

COPPER CANYON
Costa Rica and More
Explore Mexico's Copper Canyon, Costa Rica, Patagonia and many other exciting destinations. Deluxe escorted trips and custom adventures. For free newsletter: 1-800-926-1140
The California Native, 6701 W. 87 Pl, Los Angeles, CA 90045


FREE 112 Page Catalog
for Lovers of
SHIPS and the SEA
You could shop for months and never find the hundreds of decorative nautical ideas illustrated in Preston's new catalog: 112 pages teeming with ship models, marine paintings, nautical lamps and clocks, ships' wheels, figureheads and scores of other nautical ideas for the Home.
PRESTON'S
67-B Main St. Wharf, Greenport, N.Y. 11944

Experience a blend of comfort & wilderness
LITTLE ST. SIMONS ISLAND
912-638-7472
7 miles of Secluded Beach
• comfortable accommodations
• regional cuisine
• birding • hiking • canoeing
• fishing • horseback riding
• natural history programs
P.O. Box 21078 SM • St. Simons Island, GA 31522


MISSING A PIECE OF YOUR PATTERN?
Replace pieces or add to your sterling silver at up to 75% off retail. We specialize in new and used flatware and holloware. Over 1000 patterns in stock. Call or write for a free inventory of your sterling pattern. (We also buy sterling silver, with a careful appraisal for maximum value.)
Pattern shown: Chantilly by Gorham.
Beverly Bremer
SILVER SHOP
3164 Peachtree Rd., NE, Dept. SM, Atlanta, GA 30305 / Mon.-Sat. 10-5
404 261-4009

Better Way To Sleep
Pure Cotton Knit TeePJ's™
Tee-PJ's resemble a T-shirt, but over a foot longer. Special knit gives when you move, eases up when you relax. No bind, no bunch, no chafe, no buttons, no ironing. Most comfortable sleeper you've ever worn or money back! (Great for Ladies, too.) Choose snow white or soft blue. SIZES to fit 90-250 lbs. Specify man/lady & ht./weight.
ORDER NOW, while prices include ship./hdlg.!
(Can't wait? For RUSH AIR delivery add $2)
$18.95 ea. 2 for $31.85 (Save $6)
Long sleeve style (not shown)
$24.50 ea. 2 for $39.95 (Save $9)
WITTMANN TEXTILES
Dept. 328, Hobe Sound, FL 33475
(Ship. to FL add tax.) Cotton Comforts Since 1955

New TRIMMER ON WHEELS!
The DR® TRIMMER/MOWER TRIMS far easier than hand-held trimmers, because the wheels carry the weight. Plus, MOWS whole lawns, waist-high grass and weeds, even rough, rocky areas that would destroy any ordinary steel-bladed mower! A delight for anyone to use! Please call or write for FREE DETAILS, including prices of Manual and Electric Starting Models and "Off-Season" Savings now in effect!
© 1995 CHP, Inc.
TOLL FREE 1(800) 847-1700
COUNTRY HOME PRODUCTS®
Dept. 87, Ferry Road, Box 89, Charlotte, VT 05445

screen for the decision of the Hayes Administration to withdraw vital military protection of blacks from some areas of the South.

In 1877 Frederick and Anna Douglass bought a beautiful house on a hilltop in the rural southeastern corner of the city. He had the satisfaction of knowing that a previous owner had tried to prevent the property from ever being owned by blacks or Irish; from his porch, he could look down across the Anacostia River onto the great dome of the Capitol. That same autumn, he went back to the Eastern Shore and located the site of his grandmother's slave cabin, near a familiar-looking cedar tree. Douglass scooped up some of the soil to scatter at his new home, which he called Cedar Hill.

Having triumphed in the great fight over slavery, Douglass could afford to be magnanimous with his white connections on the Eastern Shore—too magnanimous for his critics. He sipped Madeira on the porch of the great house of the Lloyd plantation and spoke of "gratitude" at his reunion with the Lloyd family. He had an emotional meeting with Thomas Auld, one of his former owners, now on his deathbed; he expressed regret that he had publicly accused Auld of "cruel" treatment of his grandmother, whom he had mistakenly thought was one of Auld's slaves. Auld wept and told him in turn that "had I been in your place, I should have done as you did."

Anna Douglass died in 1882, and two years later Douglass married Helen Pitts, a clerk in his office. She was a white woman, and his own family took the marriage as a repudiation of blacks. Her father, who had been an abolitionist, also rejected the marriage, refusing to allow Douglass into his house. Of their outside critics, Douglass inquired with simple dignity, "What business has the world with the color of my wife?" Helen remarked, "I was not afraid to marry the man I loved because of his color." It was a happy marriage, and the criticism did not

prevent Douglass from being named Minister to Haiti in 1889.

Near the end of his life, Douglass also formed a vital friendship with another woman. Ida B. Wells, a young black writer in Memphis, had published a detailed account of the extent to which the lynching of blacks had become a form of social control in the South. "What a revelation of existing conditions," Douglass remarked, when he read her work. Like the younger Douglass, Wells fearlessly named names, places and motives. When they met, they would also share intellectual interests and a combative zeal. Wells later recalled going to lunch with him one day after a speech. She mentioned that a nearby restaurant did not serve blacks. "Mr. Douglass, in his vigorous way, grasped my arm and said, 'Come, let's go there' . . . and we sauntered into the Boston Oyster House as if it were an everyday occurrence, cocked and primed for a fight if necessary." Fortunately for the restaurant, Douglass received a hero's welcome.

Another time, when Wells was a guest in the Douglass home, she received an invitation to undertake a lecture tour in Britain. Douglass encouraged her to go, saying, "You go my

Journalist Ida B. Wells was a great friend of Douglass' in his later life.

Angel Collection

Exquisite Pendant or Pin
• Satin & High Polish Finish •

	Pendant	Pin
STERLING SILVER	$ 49.95	$ 59.95
14K GOLD	$ 289.95	$ 329.95

18" Chain: S/S $12.00 - 14 K Gold $65.00

$3.50 S&H - FL Residents add 6% Sales Tax.
Mail Check or Money Order to: Laura Lynn Jewelry
5722 South Flamingo Rd #213, Ft. Laud. FL 33330
VISA or MASTER CARD: (305) 975-5957

DUKE

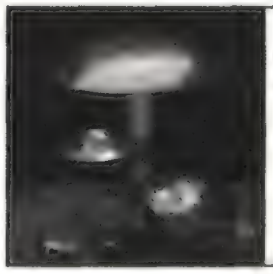
Safe, serious weight loss through lifestyle change.

Diet and Fitness Center
800-362-8446
Duke University Medical Center, Durham, North Carolina

CANADA BY RAFT!

An 11 day array of British Columbia's most outstanding landscapes: explore coastal fjords by yacht, glacier flight to a wilderness mountain lake, raft 200 miles down the sparkling Chilcotin and mighty Fraser rivers. $2325.

CANADIAN RIVER EXPEDITIONS • 1-800-898-7238
#460, 9571 Emerald Dr., Whistler, BC, Canada V0N 1B9 (604) 938-6651



handcrafted
COPPER LANDSCAPE LIGHTS
Five distinctive designs available.
Model M-3S-9 shown.
(diameter 9.5", height 15")

Send for our free color brochure.
Doner Design Inc., Dept. SM-5
2175 Beaver Valley Pike
New Providence, PA 17560
(717) 786-8891

Turn Your Walk Into A High-Energy Total-Body Workout

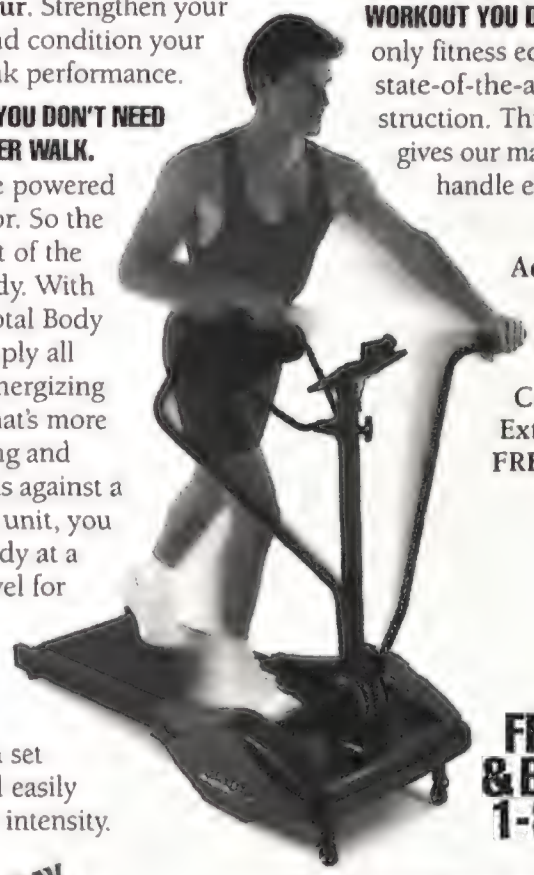
Burn up to 79% more calories than ordinary treadmills with the Total Body Treadmill.

NORDICTRACK UNVEILS THE NORDICSPORT TOTAL BODY TREADMILL. The new NordicSport Total Body Treadmill™ exerciser offers advanced fitness technology for a superior aerobic workout. Research proves the NordicSport Total Body Treadmill **burns up to 79% more calories** than motorized treadmills that work only your lower body. You can **burn 890 calories an hour and up to 1,000 per hour**. Strengthen your heart and lungs. And condition your entire body for peak performance.

WITH NORDICSPORT, YOU DON'T NEED ELECTRICITY TO POWER WALK. Most treadmills are powered by an electric motor. So the machine does most of the work, not your body. With the NordicSport Total Body Treadmill, **you** supply all the power for an energizing aerobic workout that's more effective. By walking and pumping your arms against a separate resistance unit, you work your total body at a higher intensity level for maximum results. And this self-powered design gives you total control, so you can set your own pace and easily vary your workout intensity.

ORDINARY TREADMILLS IGNORE 65% OF YOUR BODY'S MUSCLES! It's a fact: 65% of your muscles are located in your upper body. Yet ordinary treadmills work only your lower body, limiting the effectiveness of your workout. The NordicSport Total Body Treadmill exercises all the major muscle groups in both your upper and lower body.

GET THE GRAPHITE EDGE FOR THE HIGH-TECH WORKOUT YOU DEMAND. NordicSport is the only fitness equipment in the world with state-of-the-art graphite-composite construction. This Graphite Edge® technology gives our machines the durability to handle even your toughest workouts.



Achieve total-body performance with the NordicSport Total Body Treadmill.
Call 1-800-441-3404 Ext. 50TB5 now for your FREE video and brochure.

FREE VIDEO & BROCHURE: 1-800-441-3404 EXT. 50TB5

30-DAY IN-HOME TRIAL

nordicsport
Advanced Technology • NordicTrack Quality

☐ PLEASE SEND ME A FREE NORDICSPORT BROCHURE AND VIDEOTAPE
WRITE: NORDICSPORT TOTAL BODY TREADMILL, DEPT. 50TB5
104 PEAVEY ROAD, CHASKA, MN 55318-2355

NAME _____
STREET _____
CITY _____
STATE _____ ZIP _____
PHONE (____) _____

©1995 NordicTrack, Inc., A CML Company • All rights reserved.

Be Assured.
Choose an appraiser accredited by the American Society of Appraisers
experts in
• Appraisal Review and Management
• Machinery & Technical Specialties
• Business Valuation
• Personal Property
• Gems & Jewelry
• Real Property
Locate an ASA-designated expert appraiser by calling 1-800-ASA-VALU or (703) 478-2228.
Or go online with the *Appraisal Profession Online.*SM
Set your modem to dial (703) 478-5502.
Write to: American Society of Appraisers
P.O. Box 17265 • Washington, DC 20041
ASA

Douglass was proud of his grandson Joseph, who was a concert violinist.

BOOKS ON TAPE®
World's Largest Selection of Audio Books
Box 7900-S, Newport Beach, CA 92658
MEN ARE FROM MARS, Women Are from Venus
A Practical Guide for Improving Communication and Getting What You Want in Your Relationships
JOHN GRAY, Ph.D.
• Best Sellers on Cassette
• Full-length Readings
• Call for Free Brochure
Reg. U.S. Pat. & T.M. Off.
(800) 626-3333

THE ROSE
Pin
Sterling $45
14K Gold $220
VISA/MC/AMEX
1-800-235-0471
24 Hrs. 7 Days
S/H $3.50
Actual Size
Velvet Box
ROGER NICHOLS
fine studio jewelry
2445 NE Division St. • Bend, OR 97701

A Refreshing Island Getaway.
Total Relaxation & Quiet Adventure. Hundreds of pristine islands; snug harbors; scenic villages and wildlife. 10 Authentic Windjammers.
3 & 6 Day Cruises
Only $295 - $699.
The Maine Windjammer Association
PO Box 1144 SM2
Blue Hill, ME 04614
1-800-807-WIND

WILDLIFE SANCTUARY OF THE AMERICAS
COSTA RICA
EXPLORE COSTA RICA WITH INTERNATIONALLY RENOWNED, EXPERT NATURALIST GUIDES.
INTERNATIONAL EXPEDITIONS INC
800-633-4734
ONE ENVIRONS PARK, HELENA, AL 35080

Washable Sheepskin Slippers & Boots
Write or Call:
Aussie Connection
135 NE Third Avenue
Hillsboro, OR 97124
1-800-950-2668
for a FREE Catalog

GUARDIAN ANGELS
for your Valentine!
Beautiful Cherubs & Seraphs to grace your home or garden. Our replicas of European sculptural treasures are simply out of this world!
Free Color Catalogue
1-800-525-1733, ext. S751
DESIGN TOSCANO™

Cartouche
HAND MADE IN EGYPT
18 K Solid Gold from $150.00
Sterling Silver from $ 40.00
A talisman with your name in Ancient Egyptian Hieroglyphics.
Free info. 1-800-283-4978 Visa • MC • Am-Ex
Or write: Cartouche, Box 8474-1, Pgh., PA 15220

Build a Historic Wooden Ship Model
The largest selection of wooden ship model kits–museum quality replicas you build yourself. Models up to 4 feet, metal and brass fittings, cloth sails. Even first time builders can create a magnificent keepsake. Send $5.00 for a 25 minute video and 92 pg. color catalog–refundable with your first order.
Model Expo, Inc. Dept. SM25
P.O. Box 1000, Mt. Pocono, PA 18344
© Model Expo, Inc. 1994

GRAND CANYON
Rafts offer effortless conveyance to the most spectacular landscapes on earth: Grand Canyon, Canyonlands, and Dinosaur National Parks on the Colorado, Snake, and Salmon Rivers. Trips vary from a weekend to two weeks, starting at $340. Call for a free catalog.
HOLIDAY RIVER EXPEDITIONS
1-800-554-RAFT
544 E 3900 S, SLC UT 84107 (801) 266-2087 FAX (801) 266-1448

child; you are the one to go, for you have the story to tell." It was, Wells wrote, "like an open door in a stone wall" of public indifference. She passed through it and carried her mentor's struggle for racial equality well into the 20th century.

Douglass himself found a new opening in his protégée's example. In January 1894, full of his old majesty and wrath, he delivered one of his greatest speeches at a church in Washington, D.C. In "The Lessons of the Hour," Douglass carefully dissected the ways prejudice worked to keep blacks down. "A white man has but to blacken his face and commit a crime," he said, "to have some Negro lynched in his stead. An abandoned woman has only to start to cry that she has been insulted by a black man, to have him arrested and summarily murdered by the mob." More than 850 Southern blacks had been executed by officials or lynched by mobs from 1890 to 1892 alone. The usual trumped-up charge of sexual assault on white women, he said, was shrewdly calculated to drive from the suspect "all sympathy and all fair play." Moreover, it was a charge not

merely against the individual but against all blacks: "When a white man steals, robs or murders, his crime is visited upon his own head alone. . . . When [a black man] commits a crime the whole race is made to suffer."

The so-called race problem, Douglass said, "cannot be solved by keeping the Negro poor, degraded, ignorant and half-starved. . . . It cannot be solved by keeping the wages of the laborer back by fraud. . . . It cannot be done by ballot-box stuffing . . . or by confusing Negro voters by cunning devices. It can, however, be done, and very easily done. . . . Let the white people of the North and South conquer their prejudices. . . .

"Time and strength are not equal to the task before me," he concluded. "But could I be heard by this great nation, I would call to mind the sublime and glorious truths with which, at its birth, it saluted a listening world. . . . Put away your race prejudice. Banish the idea that one class must rule over another. Recognize . . . that the rights of the humblest citizen are as worthy of protection as are those of the highest, and . . . your Republic will stand and flourish forever."

A little more than a year later, as he recounted for his wife the events of the women's rights rally he had attended that afternoon, Douglass sank to the floor of their home and died. His body was taken to Rochester for burial.

The gravestone is curiously generic for a man whose life was full of well-chosen words, and historians now know that the year of his birth, which eluded him till the end, is wrong. The stone reads: "To the memory of Frederick Douglass—1817-1895." A visitor paying homage might think, instead, of the newspaper called the *North Star* that a visionary, headstrong young man once published in the city. The title came from a fugitive-slave song. Frederick Douglass could sing the words with a truth matched by few Americans before him or after: "I kept my eye on the bright north star, and thought of liberty."

Douglass worked until the end of his life at Cedar Hill in Washington, D.C.; today, virtually unchanged, it is a National Park Service site and open to visitors.

We're not Sensational

In fact, we make it a point not to be.

Do you seek pure news that doesn't assault your senses? A newspaper that doesn't have an ax to grind?

Then **The Christian Science Monitor** is for you.

Each weekday for more than 85 years, the **Monitor** has reported world issues and events with one goal in mind —giving you the news that matters most. Try 3 months for only $29.97.

Subscribe now. Call
1-800-238-6666

THE CHRISTIAN SCIENCE MONITOR.

Archaeological Tours
LED BY NOTED SCHOLARS
1995 TOURS

GREAT MUSEUMS, *Mar*	CAVES & CASTLES, *Sep*
SYRIA & JORDAN, *Mar, Apr, Sep*	CENTRAL ASIA, *Sep*
SICILY & S. ITALY, *May, Oct*	HIMALAYAN KINGDOMS, *Oct*
CYPRUS & CRETE , *May*	CHINA - ANCIENT CAPITALS, *Oct*
ANATOLIAN TURKEY, *May, Oct*	PERU & BOLIVIA, *Oct*
EASTERN TURKEY, *Aug*	SOUTH INDIA, *Nov*
ISRAEL, *May*	MAYA EMPIRES, *Nov*
CHINA - SILK ROAD, *May*	EGYPT, *Nov*
IRELAND & SCOTLAND, *Jun*	CHILE & EASTER ISLAND, *Nov*
ANCIENT ROME, *Jun*	VIETNAM & CAMBODIA, *Nov*
INDONESIA, *Aug*	KHMER KINGDOMS, *Dec*
PORTUGAL, *Sep*	

archaeological tours
271 Madison Ave., 904SM, NY, NY 10016 (212) 986-3054

Clip & Mail

ORCHIDS
The Ultimate in House Plants!

Grow and enjoy orchids, the most beautiful flowers in the world, in your own home. We'll show you how. Receive a different plant each month, with instructions for care. Buy one plant or many. For free brochure :

The Orchid Club
Box 463, Dept. SM-1 Baldwinsville, NY 13027
TOLL FREE 1-800-822-9411

Name _____
Address _____
City/State/Zip _____

Fun Set!

Fun-rise to fun-set, your child will enjoy our playsets & bunk beds!

Call or write for a free catalog.

woodplay
1-800-WOODPLAY
Dept.SM • PO Box 27904 • Raleigh, NC 27611
'95 catalog prices apply.

Additional Reading

ELEPHANTS • DUCKS • HIPPOS • OWLS • HAWKS • MICE • LIONS • SEALS • DOGS • CATS • HAWKS • RABBITS • FROGS • SEALS • DOGS • CATS • HORSES • DUCKS • LIONS • HAWKS • MICE • FROGS • PENGUINS • OWLS • HORSES • CATS

CLASS RING.
Graduate to this unique and stunning expression of your love for animals. Pick your favorite species/breed...Rings, Earrings, Broaches in Gold & Silver from $49.95
CALL FOR FREE CATALOG OR TO ORDER
SIGI DESIGN
1165A Castle Rd., SM, Sonoma, CA 95476
1-800-407-SIGI (7444) Visa-M/C-Amex
(707) 939-0464 • Handcrafted in USA
HIPPO $529.95 14Kt, $89.95 SS

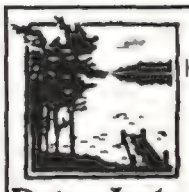
BUFFALO RANCHING makes good ecological sense for the American prairie. Please write or call for free catalog of a full range of buffalo products to:

THUNDERING HERD BUFFALO PRODUCTS®

Thundering Herd
Buffalo Products
PO Box 1051, Dept. SM2
Reno, NV 89504
1-800-525-9730

COPPER CANYON
NEW IN-DEPTH ITINERARIES
SIERRA MADRE RAIL EXCURSIONS
TO A CANYON DEEPER THAN GRAND CANYON
Mountain lodges in pristine pine forests; canyon descents; historic hacienda hotels in tropical colonial towns; cliff-dwelling Tarahumara Indians; waterfalls; horseback riding, etc. 25 years expertise. CUSTOMIZED DAILY DEPARTURES
1-800-843-1060 OPEN MON-FRI 9:00AM - 6:00PM CT
COLUMBUS TRAVEL, RT.12 BOX 382-B, NEW BRAUNFELS, TX 78132

SWISS ALPS
Moderate DAY hiking tours, 2 or 4 weeks. Ride up above tree line and hike down. Over 50 optional length hikes basing one week at 10 charming mountain villages in 3 or 4 star hotels. Write for free brochure.
ALPINE ADVENTURE TRAILS TOURS
783H Cliffside Dr.
Akron, OH 44313
swissair

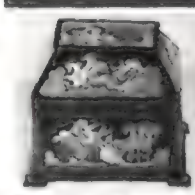


PUZZLE ART
Heirloom quality, intricately handcut wood jigsaw puzzles personalized with silhouettes & messages.
$95 and up
Call or write for free catalog:
(612) 827-5757
Dept.S-2, 4255 Garfield Ave. S.
Minneapolis, MN 55409-1858
Rainy Lake PUZZLES

VETERANS, FAMILY, DESCENDANTS:
CREATE A PIECE OF FAMILY HISTORY
Military decorations, medals, custom mounted in superb awards cases. Civil War to Desert Storm. Records research. Unique gift
Order catalog now. $2.00
CALL TO COLORS, Box 5403S
Towson, MD 21204

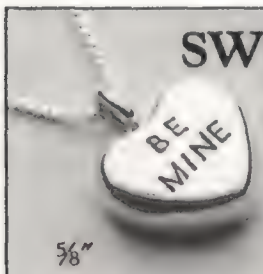
Elegant, handcrafted furniture & accessories.
Free brochure, call or write:
NORTH ROAD
PO Box 306, Cobden IL 62920
1-800-377-6852
End tables from $300

RUSSIAN
Lacquer Boxes



Perhaps, the most beautiful of all Russian art. Each masterpiece is individually hand painted in exquiste detail by a Russian miniaturist in centuries-old tradition. Selected by our people in Russia. In all price ranges. Start your collection. You save because we're direct importers. Send or phone (603 356 7832) for photos of avail. boxes. $3 MC, Visa.

RUSSIAN COLLECTION
Dept 124, Rt 16, RR1, Box 5, Intervale, NH 03845



SWEET HEART
James Breakell's pretty pendant with 18" chain.
Sterling silver $30.
14 karat gold $195.
Add $3.50 handling.
Call for catalog.
800-767-6411
J.H. Breakell & Co.
69 Mill St, Dept SMSH, Newport, RI 02840

W. EUROPE, C. EUROPE, GREECE, TURKEY, MIDDLE EAST, AFRICA, S. AMERICA, C. AMERICA, ASIA, AUSTRALIA, NEW ZEALAND
SMALL GROUP IN-DEPTH HOLIDAYS
CALL TOLL FREE 1-800-665-3998
ADVENTURES ABROAD

Costa Rica·Belize·Africa·Galapagos
NATURAL HISTORY TRIPS WORLDWIDE SINCE 1982
First Class Yacht Cruises, Tented Safaris, Naturalist Guides
800 351-5041 GEO EXPEDITIONS P.O. Box 3656-N12 Sonora, CA 95370

HIEROGLYPHS

PERSONALIZED CARTOUCHE JEWELRY
Translate Anything into Ancient Egyptian Hieroglyphs
SS Pendants from $40 • 18k from $150
Handmade in Egypt • Free Brochure has Alphabet
Pendants • Rings • Bracelets • Earrings
1-800-237-3358
Call Toll Free or Write to:
526 N. Fayette St., Dept. SM,
Alexandria, Virginia 22314 ©
Discoveries
CELEBRATING OUR 14TH YEAR!

Origins of life (p. 32)

"*The Origin of Life on the Earth*" by Leslie E. Orgel, *Scientific American*, October 1994

"The Oldest Fossils and What They Mean" by J. William Schopf, *Major Events in the History of Life*, edited by J. William Schopf, Jones and Bartlett (Boston), 1992

Beginnings of Cellular Life: Metabolism Recapitulates Biogenesis by Harold J. Morowitz, Yale University Press, 1993

Chemical Evolution: Origin of Life by Cyril Ponnamperuma and Julian Chela-Flores, A. Deepak Publishing (Hampton, Virginia), 1993

Shaving (p. 44)

"The Razor King" by Howard Mansfield, *Invention and Technology*, Spring 1992

The History of Shaving by H. H. Manchester, AutoStrop Razor Company, 1923

A History of Shaving and Razors, Ad Libs Publishing (Bartonville, Illinois), 1987

"Blade Runner" by Jay Stuller, *In Health*, November-December 1990

"Secrets of the Shave" (Personal Best) by Lamar Graham, *GQ*, July 1993

Charles Csuri (p. 56)

"An Interview with Charles Csuri," *Computer Graphics and Applications*, January 1990

Art of the Electronic Age by Frank Popper, Harry N. Abrams, 1993

Wirehead: Virtual Media Galerie (CD-ROM), Quantum Axcess (Columbus, Ohio), 1994

A Study of the Work of Charles Csuri, Computer Artist and Computer Art Educator (doctoral dissertation) by Jean Do-

minici DeMaria, School of Education, Health, Nursing and Arts Professions, New York University, 1991

Babe Ruth (p. 68)

Babe: The Legend Comes To Life by Robert W. Creamer, Simon and Schuster, 1974

The Babe: A Life in Pictures by Lawrence S. Ritter and Mark Rucker, Ticknor & Fields, 1988

Calendar of Events for Babe's 100th, Babe Ruth Museum (216 Emory Street, Baltimore, Maryland 21230)

Reading aloud (p. 82)

The New Read-Aloud Handbook by Jim Trelease, Penguin, 1989

Becoming a Nation of Readers, report of the Commission on Reading, Center for the Study of Reading, University of Illinois (Champaign), 1985

Whale sharks (p. 94)

Sharks in Question: The Smithsonian Answer Book by Victor G. Springer and Joy P. Gold, Smithsonian Institution Press, 1989

"Big Fish Story" by Geoff Taylor, *BBC Wildlife*, August 1993

"Whale shark observations off Kuwait's coast in 1992" by J. M. Bishop and A. R. Abdul-Ghaffar, *Journal of Fish Biology*, 1993

Mitchell Wolfson jr. (p. 102)

"Mitchell Wolfson, Jr.: The Man and His Mission" by John Malcolm Brinnin, *Journal of Decorative and Propaganda Arts*, Fall 1988

"Not Your Average Collector" by Maya Bell, *Florida Magazine*, August 8, 1993

"A Man Possessed: The Wolfson Collection" by Steven Heller, *Print*, March-April 1994

Frederick Douglass (p. 114)

Frederick Douglass: Autobiographies (*Narrative of the Life of Frederick Douglass*; *My Bondage and My Freedom*; and *Life and Times of Frederick Douglass*), Library of America, 1994

Frederick Douglass by William S. McFeely, W. W. Norton, 1991

Young Frederick Douglass: The Maryland Years by Dickson J. Preston, Johns Hopkins University Press, 1980

Autobiography of Frederick Douglass and other titles narrated by Ossie Davis (audiocassette), Smithsonian/Folkways Recordings (414 Hungerford Drive, Suite 444, Rockville, Maryland 20850, or call 301-443-2314)

WOOD HEAT
HEATS YOUR ENTIRE HOME
Call or Write
Charmaster®
218/326-6786 2307 HWY 2 W
GRAND RAPIDS, MN 55744

PUBLISH WITH RUTLEDGE!
Become part of the Rutledge family. We offer a complete publishing plan. Let our professional staff work with you to produce an attractive, high-quality book. Send for our free brochure outlining our step-by-step plan.
Rutledge Books
Dept. SM 2
P.O. Box 315
Bethel, CT
06801-0315

POLAR BEARS
Journey with us to Churchill, Manitoba to view & photograph the Great White Bears, close-up, in a Tundra Buggy® or our Tundra Bunkhouse Lodge. **Oct. Departures, from $1795**
TravelWild INTERNATIONAL
For a free brochure call
1-800-368-0077
PO Box 1637
Vashon, WA 98070 SM01

Are you frustrated by chronic back pain?

Have you ever seen a doctor or therapist about your pain? ■ Yes ■ No

Do you have impaired mobility as a result of your pain? ■ Yes ■ No

Does your pain persist no matter what you do? ■ Yes ■ No

"The BACKTECH® back machine has given me the best pain relief I've had in years. It will be part of my daily schedule for the rest of my life."

Chronic back pain sufferers like Arnold Palmer recommend the BACKTECH back machine as an effective, in-home therapy.

After more than five years of clinical testing by doctors, chiropractors, and physical therapists, the BACKTECH back machine has been shown to be safe and effective for relieving many types of chronic back and neck pain.

How it relieves your pain:

Massage — 21 soft rollers gently massage your muscles to increase circulation and reduce tension.

Stretching — Muscles and ligaments are passively stretched, increasing flexibility and reducing pain.

Traction — Increases mobility and emoves pressure from discs, reducing pain.

Call now for a FREE video and report.

If you suffer from chronic back or neck pain, call for information including a free video and a report on the results of clinical studies with the BACKTECH back machine.

No Payment, No Interest for 90 days.*
Offer expires 3/31/95

Call 1-800-433-5599
Back Technologies, Inc.
2525 West Casino Road, Everett, WA 98204

Name _____
Address _____
City _____
State _____ Zip _____
Phone _____

BACK TECHNOLOGIES INCORPORATED
*O.A.C. 18.00% A.P.R.
Dept. 1431

THE SMITHSONIAN TRAVELER

INTERNATIONAL TOURS

Call or write for your FREE full-color **Smithsonian International Land Tours** catalog, featuring more than 100 destinations!

City Interludes *February-November* Off-season sojourns in the world's great cities: London, Hong Kong, Lhasa (Tibet), Florence, Venice, Berlin, Kyoto, Prague, Vienna, St. Petersburg, Barcelona, Seville and Hamilton (Bermuda).

Copper Canyon (Mexico) *April 1-8 or November 11-18*

Galápagos Islands Cruise *April 1-12* Aboard the *Isabela II.*

NEW **Olmec Mexico** *April 1-13*

Dutch Waterways Cruise *April 20-May 3*

Western Turkey *April 28-May 14*

Countryside Tours *May-October* Relaxing sojourns in England, Scotland, Wales, Germany, France, Austria, Italy and the Czech Republic.

China *May-October* Five itineraries including Tibet and Yangtze River cruise.

Italy Cruise *May 2-17* Aboard the *Regina Renaissance.*

Finland and Stockholm *May 3-15*

Ancient Cultures of Italy Voyage *May 9-21* Aboard the *Sea Cloud.*

Undiscovered Greek Islands *May 11-24* Aboard the *Queen Odyssey.*

South Pacific Voyage *May 13-June 3* Aboard the *World Discoverer.* For Contributing Members.

Austrian Musical Masterpieces *May 14-25*

French Waterways *May 19-30* Aboard the *Anacoluthe.*

Japan Insights *May 22-31*

Poland-Czech Republic-Hungary *May 25-June 6*

England's Heritage *June 1-15*

Inside Ireland *June 8-18*

Rails through the Alps (Switzerland and Austria) *June 8-22*

Odyssey of Flight (France) *June 9-20*

Moscow-St. Petersburg Cruise *June 16-July 1*

England's Lake District Walks *June 19-29*

Ticino Hikes (Italy) *June 23-July 3*

British Isles Cruise *June 27-July 11* Aboard the *Regina Renaissance.*

NEW **Rails through Europe and Rhine River Cruise** *July 1-12*

Hikes in Austria and Italy *July 5-19*

Swiss Countryside Walks *July 7-17*

Scandinavia Cruise *July 8-25* Aboard the *Regina Renaissance.*

U.S. & CANADA TOURS

Smithsonian "Anytime" Weekend (Washington, D.C.) New value package includes free parking. Make your reservation now for a spring visit.

NEW **Arizona History and Architecture (Phoenix and Tucson)** *March 25-April 1*

Springtime in San Antonio and Austin *April 1-8*

Maryland Homes, Gardens and Hunt Country *May 1-7*

Grand Canyon Weekend *May 4-7 or September 14-17*

NEW **Hudson River Homes and Gardens** *May 8-15*

Spring Gardens of the Delaware Valley *May 9-15*

Bryce, Zion and the North Rim of the Grand Canyon *May 11-21 or October 5-15*

Utah's Canyonlands *May 19-26 or September 22-29*

Southwest Native American Art *May 23-31 or October 5-14*

Hiking in the Smokies *June 3-11 or August 26-September 3*

NEW **Connecticut Heritage and Antiques** *June 3-11*

NEW **Pittsburgh Weekend** *June 7-11*

NEW **Ontario History and Theater (Toronto, Stratford, Niagara-on-the-Lake)** *June 12-19 or October 9-16*

NEW **Erie Canal (Syracuse to Buffalo)** *June 15-20*

Yellowstone Hiking *June 19-29 or August 28-September 7*

Yukon Wilderness *June 25-July 7*

NEW **Smithsonian Family Science Weekend (Washington, D.C.)** *June 29-July 2*

American Legacy: The Dakotas *July 2-10*

Railroading the Rockies *July 14-22, August 11-19 or September 15-23*

Digging for Dinosaurs (Montana and Wyoming) *July 15-24*

Grand Canyon Rafting *July 21-30*

Sawtooth Wilderness (Idaho) *July 24-30*

SMITHSONIAN SEMINARS

Interior Design and Crafts (New York City) *March 22-26*

New Orleans Cuisine (New Orleans, Louisiana) *March 29-April 2*

THE LATEST WORD ON TOURS, EXPEDITIONS AND LEARNING

■ TO REQUEST TOUR AND SEMINAR BROCHURES, CALL (202) 357-4700;
■ OR WRITE TO
THE SMITHSONIAN ASSOCIATES
MRC 702, WASHINGTON, DC 20560.

Barrier Island Ecology (Little St. Simons Island, Georgia) *April 3-7*

In the Steps of Jefferson (Richmond, Virginia) *April 20-23 or May 4-7*

Nobel Laureates of Literature (Atlanta, Georgia) *April 21-25*

French Impressionism (Washington, D.C.) *April 23-27*

Yosemite National Park (California) *April 23-28*

Civil War: Petersburg to Appomattox *April 27-30*

Photography Workshop (Tucson, Arizona) *April 30-May 7*

Rock Art of the Southwest (Bluff, Utah) *May 2-7 or October 3-8*

Civil War in the Southwest (Las Vegas and Santa Fe, New Mexico) *May 10-14*

Florence (Italy) *May 16-20*

Cosmology (Cambridge, Massachusetts) *May 18-21*

San Juan Ecology (Friday Harbor, Washington) *May 22-26*

Chinese Art (Beijing, Xi'an, Shanghai and Hong Kong) *May 22-June 8*

Civil War Conference (Harpers Ferry, West Virginia) *June 15-18*

ODYSSEY TOURS

Moderately Priced Tours *1995* Great Britain, Italy, Sicily-Malta, Greece, France, Greece-Hydra-Crete-Santorini-Rhodes-Turkey, Jordan-Israel, Portugal-Spain, Morocco, Belize-Honduras-Guatemala, Costa Rica, London-Amsterdam-Brussels-Paris, Prague-Budapest-Vienna-Salzburg, Scandinavia, India, U.S. National Parks, Arizona-Colorado, New York City and Washington, D.C. For an Odyssey brochure, call 1-800-932-8287.

ADVENTURES

MOVING?

If you are planning to move soon, please send us an address label from a recent issue along with your new address and mail to:

SMITHSONIAN MEMBERSHIP DATA CENTER
P.O. BOX 55593
BOULDER, CO 80322-5593

OR CALL
800-766-2149

Please include or have handy address label from recent issue.

We Desire to Purchase...
Book Collections, Fine Bindings, First or Significant Editions: all periods, subjects and languages.
American Historical Autographs and Documents, *collections or single items, Colonial period to the present.*
David L. O'Neal Antiquarian Booksellers Inc.
234 Clarendon St., Boston, MA 02116 • **617-266-5790**
Free appraisals cheerfully given.

ALASKA WILDLAND ADVENTURES
Natural History Safaris
7, 10, & 12 days
Denali Park
Kenai Refuge
Seacoast Glaciers
"Why sightsee Alaska when you can experience it!"
1-800-334-8730 P.O. Box 389, Girdwood, AK 99587

Country Curtains.
At The Red Lion Inn • Stockbridge, MA 01262
CURTAIN CHARM FOR EVERY HOME!
Call Today for a FREE 68-page Color Catalog
1-800-876-6123
Dept. 1445

QUEENS' COLLEGE CAMBRIDGE UNIVERSITY
Summer Programmes in Cambridge, England
Teens 14-19 July 23 - Aug. 12
Adults July 30 - Aug. 6
Brochures U.S. Office: 800-922-3552
FAX: 312-988-7268

★ MAINE WINDJAMMERS ★
AMERICAN EAGLE
ISAAC H. EVANS
HERITAGE
Sail the Maine Coast
Great food, fun & friends ★ $325 - $645 ★ Brochures
North End Shipyard Schooners, Box 482H
Rockland, ME 04841
FAX 207-594-8015
★ **1-800-648-4544** ★

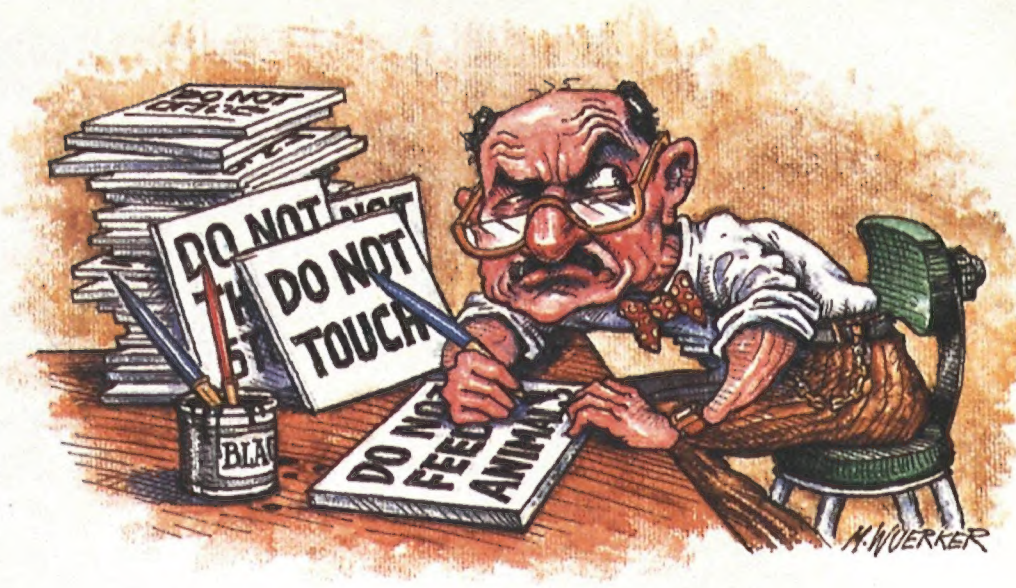
A COMMEMORATIVE EARTH DAY POSTER FROM THE APRIL 1990 SMITHSONIAN

The Poster measures 21¾" x 28¾"
Printed on Recycled Paper
Allow 4 to 6 weeks for delivery

Send $10.00 with address to:
Smithsonian Magazine, P.O. Box 23624
Washington, D.C. 20026-0624

By Bailey White

So who makes up all those signs that tell us what we mustn't do?



I was leaning over the little railing, looking down into the Devil's Millhopper, an interesting geological formation and the focal point of a Florida state park. Waterfalls plunge 120 feet into a bowl-shaped sinkhole, maidenhair ferns and moss grow in little crevices along the steep, sloping sides of the gorge, and a beautiful mist rises. I stood there feeling a reverence for those spectacles of the natural world. I felt the slow sweep of geologic time, I felt the remnants of the spiritual significance that place had had for the Indians who lived there for thousands of years; I felt the wonder and awe the European explorers experienced when they peered into that chasm for the first time.

Then another feeling crept over me, a deep, almost atavistic, longing. It was the urge to throw something into the Devil's Millhopper. I looked around. A stone or a stick would do, but what I really wanted was a piece of food, the nibbled end of a hot-dog bun or a wedge of chocolate cake without icing. Then I noticed the sign, one of those tastefully unobtrusive state park signs: "Do Not Throw Food Or Trash In Gorge."

It was 4 A.M. and I was at the Los Angeles bus station, my next-to-last stop on a dreary transcontinental trip—three days and three nights on a Greyhound. My back ached, my knees ached, my head ached. Ever since El Paso, Texas, my seatmate had been an old man who chain-smoked Marlboro cigarettes and sucked and slobbered over a perpetual ham sandwich that kept oozing out of a greasy crumple of wax paper. I longed for a bath in my own bathtub at home, and then a deep sleep in my own bed, stretched out full length between clean sheets. But, I thought, pushing open the door of the bus station restroom, if I can just wash my feet and my hair I will be all right. I lined up my soap, my washrag and my little bottle of shampoo on the back of the sink and took off my shoes and socks. Aah, I thought. Then I saw the sign on the mirror: "Do Not Wash Hair Or Feet In the Sink."

A few weeks ago I went into our little downtown restaurant and saw that it had replaced its tired old salad bar with a gorgeous saltwater aquarium with sea anemones, chunks of living coral and big, slow-moving, colorful fish with faces I could almost recognize. I spent my whole lunchtime staring into that tank, mesmerized by the fish as they gracefully looped and glided, sending the tentacles of the sea anemones into slow swirls and fanning out the tall grasses. When I finished my sandwich I noticed that there were a couple of crumbs left on my plate, just the size to pinch between thumb and finger.

Oh, I thought, to pinch up those crumbs and dip my fingers down into the water, breaking through the smooth surface into the coolness and silence of that peaceful world. A fish would make a looping turn, his odd exophthalmic eyes would rotate slowly in their sockets and fix upon the crumbs. Then he would angle up, and I would feel for just one exquisite instant those raspy fish lips grating across my fingertips. With rising delight and anticipation, I pinched up a crumb, two crumbs. I scrabbled across to the plastic top of the tank, found the little door, lifted it open—and then I saw the sign: "Do Not Feed The Fish."

"We Prohibit Climbing In Any Manner From Or Along the Canyon Rim."

"Do Not Pick Flowers."

"No Smoking, Eating Or Drinking."

"No Swinging From Vines In Trees."

"No Pedestrian Traffic In Woods."

"No Fishing."

"No Swimming."

"No Trespassing."

Don't get me wrong. I approve of these necessary and useful prohibitions. But sometimes I wonder: Who makes them up and how does he know so well the deep and touching urges of human beings to pick flowers, picnic in unusual spots, walk in the woods, climb canyon walls, swing from vines and feed already well-nourished animals? I imagine a sour, silent little man skulking around in public places, watching us furtively with squinty eyes and scribbling notes on his bulging pad with a gnawed pencil. In national parks he disguises himself as a tourist in reflective sunglasses and plaid Bermuda shorts. "Bryce Canyon," he notes with a smirk. "Urinating on hoodoos and off cliffs." In zoos he wears khaki and lurks in the shadows, hiding behind a bag of peanuts. "Touching the giraffe's tongue through fence wire . . . feeling the camel's hump," he scribbles.

At night he goes home and, in his stark-white workshop illuminated with fluorescent lights, he makes those forbidding signs. I imagine, one night as he works late, the tendril of a grapevine creeping in his window and, when his back is turned, gently nudging itself around him. "No Touching!" he admonishes. But, with a clutch and a snatch, the vine retracts, and he finds himself hurtling through the night sky above a North Florida state park. "Do Not Swing From Vines!" he shrieks. And with that the vine drops him into the vortex of a limpid spring. "No Swimming!" he sputters as the dark, icy water closes over his head. As he sinks, pale-colored fish swim up and cock their eyes at him. "Do Not Feed The Fish!" he squeaks. But slowly and precisely, the fish angle up, move in, and then, all over, he feels the pick-pick-pick of those prickly lips.

We've Made European Travel So Easy, You Can Do It In Your Sleep.

Between Rome and Naples, fluff your pillow. From Amsterdam to Paris, let's see. Midnight buffet. Dancing. Maybe just rearrange the comforter and turn over.

In your dreams, there's a European vacation where you can see 10 cities in 12 days. Spend your nights in celebration instead of slumping in an airport lobby chair. Here, your only real hassle is to sip your drink before the ice melts.

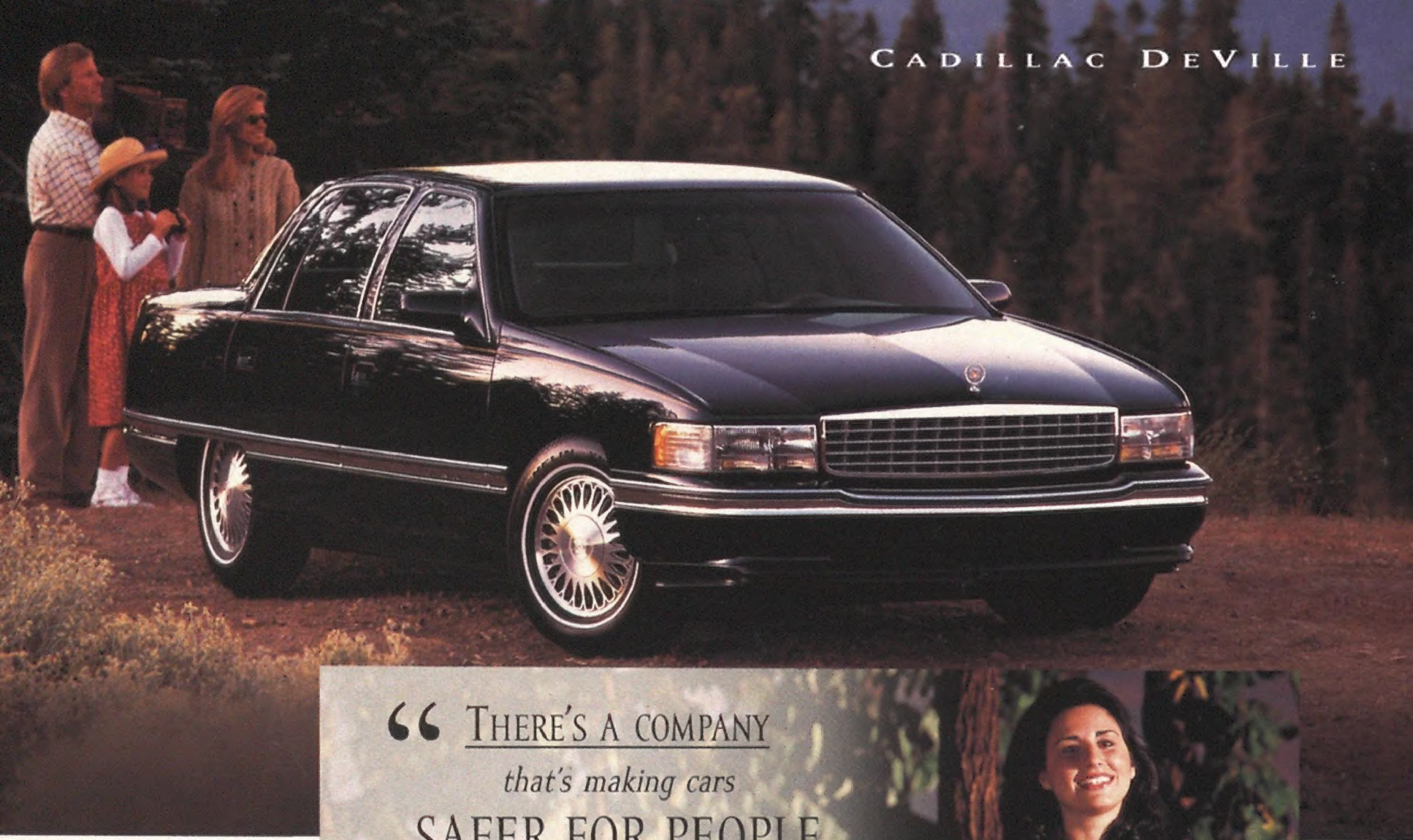
If you dream in color, you'd see ships with our logo on them, sailing all over the world. Including five vacations taking you nearly anywhere in Europe you'd want to go. Your room, an army of waiters and a very content-to-be-in-one-place-suitcase all go with you. Call us in your sleep. Or anytime at 1-800-526-RCCL for a free brochure. Or dial your travel agent about the stress-free vacation you have coming.

Then, sometime during your third massage, remember with fond sympathy those waiting in long ticket lines.

You've Got Some ROYAL CARIBBEAN *Coming.®*

Alaska · Bahamas · Bermuda · Caribbean · The Far East · Hawaii · Mediterranean · Mexico · Panama Canal · Russia · Scandinavia

©1995 RCCL. Ships of Norwegian, Liberian and Bahamian Registry.



"THERE'S A COMPANY
that's making cars
SAFER FOR PEOPLE
...and the environment.
MY COMPANY.

Trina Barta, Cadillac Employee Volunteer"

THE ENVIRONMENT: "Cadillac engineers are always looking for ways to help protect our customers. But they're also looking for ways to help protect the environment. For instance, 75% of Cadillacs by weight can be recycled. The DeVille actually gets better fuel economy* than some smaller cars. And as a corporate sponsor of The Nature Conservancy, we're not only donating money to help preserve wildlife. Our volunteers donate their personal time as well. Most important, there's a car company that knows no matter what we've done so far, it's only the beginning. That's my company. Cadillac."

For more information, please call 1-800-333-4CAD.

DeVille photographed overlooking The Nature Conservancy's Cosumnes River preserve. Cadillac is pleased to be a corporate sponsor of this organization dedicated to protecting the diversity of life on Earth.

The Nature Conservancy®

CADILLAC
CREATING A HIGHER STANDARD®

*EPA est. MPG 16 city/25 hwy.
Always wear safety belts, even with air bags.
© 1994 GM Corp. All rights reserved.
® CADILLAC® DEVILLE®